

MANUFACTURERS' RECORD

A WEEKLY SOUTHERN INDUSTRIAL
RAILROAD AND FINANCIAL NEWSPAPER.

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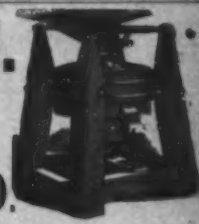
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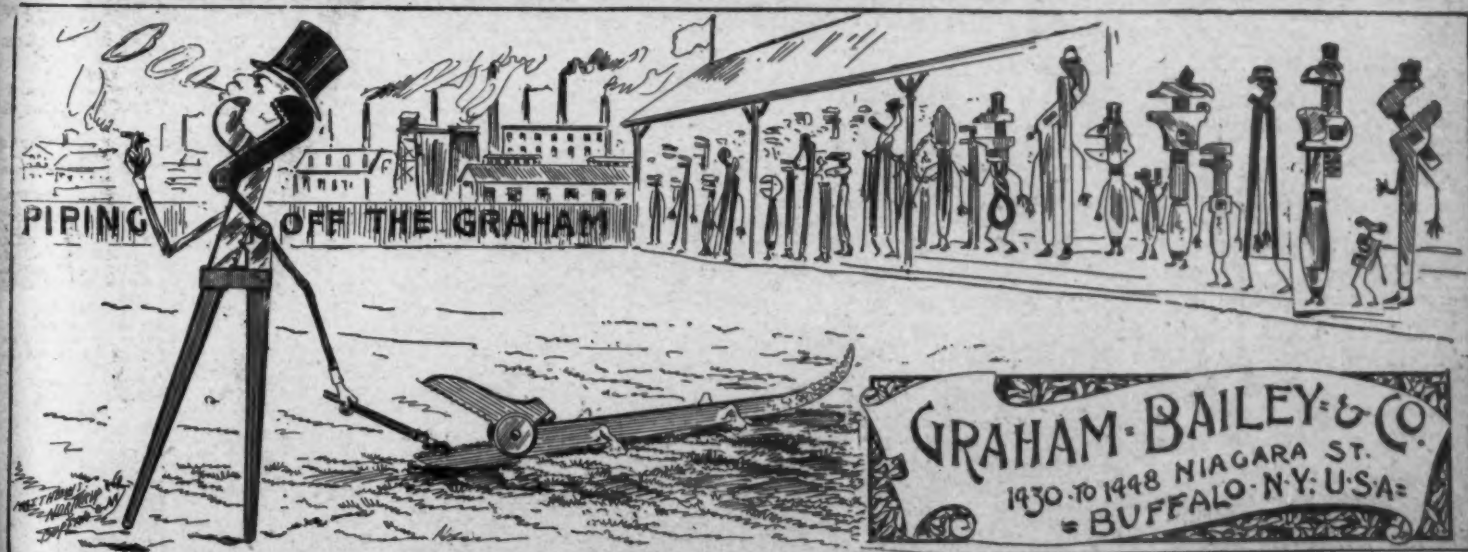
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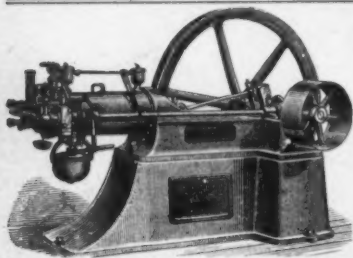
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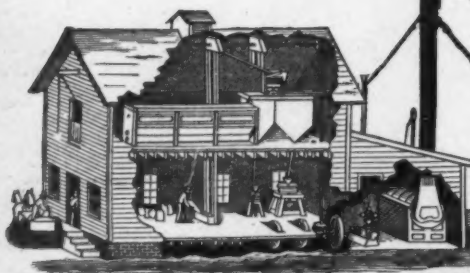
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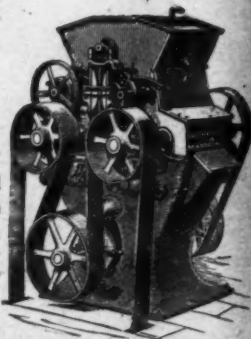


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MANUFACTURERS' RECORD

A Southern Industrial, Railroad and Financial Newspaper.

VOL. XVIII. No. 12.
WEEKLY.

BALTIMORE, OCTOBER 25, 1890.

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BALTIMORE, OCTOBER 25, 1890.

Southern Trip of the Iron and Steel Men.

The iron and steel magnates of Great Britain and Germany, at the close of the session of the institute at Pittsburg, were taken on the series of excursions which had been elaborately arranged for them. Because they were practical men, whose chief interests at home were in iron and its manufactured products, the committee of arrangements very wisely provided that all these journeys should be made to the great centers of production, where these things could be seen to the best advantage. Pennsylvania, Michigan and the Northwest were visited by separate parties, that afterwards united and went into Alabama, Tennessee, Kentucky and Virginia, where they were shown something of the wondrous mineral wealth of the South and the prospering young industrial towns and cities that are engaged in its development. From there they were transported into Southwestern Virginia and Kentucky, where an equally wonderful progress greeted their eyes. Everywhere they were welcomed with true American cordiality, and with a hospitality that left nothing to be desired. This was gracefully acknowledged by Sir James Kitson in his response to the welcoming address at Birmingham, he saying: "The first word I heard on entering this room was the word 'welcome.' 'Welcome' has been ringing in our ears at every station and at every point we have passed in this long tour through the United

States. What is more, gentlemen, we have felt that while that word was continually being repeated, it was ever resounding with additional strength, and that the welcome was everywhere more fervid as we proceeded South."

But while cordial greetings and unstinted hospitalities marked every mile of their progress, and made a lasting impression upon the minds of all, the wealth of nature everywhere impressed them much the more. This also Sir James Kitson expressed in the same response, saying:

I can truly say, although you have given us a rather long tour through your country, I can quite understand that you wish to give us a long tour; you desire to show us all you can of your natural riches, and I can say in behalf of myself and friends that have been with me that we are astonished to see how richly you are endowed by nature. The iron and limestone are not only great of proportions, but very rich; the coal is not only in great abundance, but very accessible, and it is quite evident at this moment that on account of the advancing wages that are now being obtained and established on the continent that we represent, that you are able here to make pig iron on equal, if not on more favorable, terms than any country in the world. All that I can say to you is, grow and prosper, and we think we have a fair field, and shall endeavor to do our best to rival you in peaceful competition.

When these gentlemen shall have returned to their homes they will tell what they have seen to their business associates there, and by these narrations a greater confidence than ever will be inspired in the marvelous resources of the South.

"I THINK that with economy and prudence pig iron can be produced in this section of the country cheaper than anywhere else in the world." These were the words of Sir James Bain, an iron manufacturer of the Cumberland district of Great Britain to a Southern interviewer. The speaker comes from a district that produces 80,000 tons annually of hematite pig, and has an enormous output of coal from its mines. He did not talk at random, but from a keen appreciation of what he had seen of the iron and coal re-

sources of the South, and from his long familiarity with the same business at his home. This is as strong confirmation as the MANUFACTURERS' RECORD could ask of the position it took many years ago and has consistently maintained ever since, that the South would be able to make cheaper iron than any other part of the world.

The Bessemer Revolution.

Tubal Cain, a descendant in the eighth generation from Father Adam, is set down in the genealogical record (Genesis 4th, 22d) as "an instructor of every artificer in brass and iron," from which brief mention it is to be inferred that even then men were taught, through their necessities, how to separate metals from their ores, and how to smelt, amalgamate and convert them into tools and weapons. In other words, at the very beginning of recorded history, the usefulness of metals was so apparent to man that his ingenuity was exercised in contriving how to make them available. From that period until now ingenious artificers have studied the metals of their respective handicrafts, calling to the aid of their practical knowledge all accidental discoveries and all resulting from scientific researches, until, notwithstanding the losses (during "the dark ages") of previously accumulated knowledge, the metal workers of this generation, as well as the artificers in all other callings and industries (whether of the commoner or of the more artistic vocations) are, in the fullest sense, "heirs of all the ages."

The recent great meeting at Pittsburg of the leaders of thought and action in the world's iron and steel industry, naturally recalls the original metal worker of the primeval world. It will be apparent to all who carefully study the history of the iron and steel development of the ages that at no era in all the centuries since civilization began has there been such rapid and such widespread progress as now exists. The coming to the United States at this time of the most eminent British and

German practical experts in the iron and steel trade is evidence of this truth. Although many students of the Old Testament prophecies think otherwise, it is apparent to every thoughtful person that this is indeed "the iron age." It is equally clear that in the development and the progress of this age, with all its tremendous advances, the Southern States of the federal Union are fast advancing into the foremost ranks, and that consequently the South will eventually lead the world in iron and steel manufactures. This has already been virtually admitted by Sir James Kitson, president of the British Iron and Steel Institute, and the more he and his brethren from across the water see of the South's iron and coal resources, and of the industries taking shape because of them, the more ready he and they will be to admit that the claim we make is well founded and will soon be equally well established.

But between the production of pig iron and steel ingots, and the transformation of them into all the forms in which they serve human needs, there is an immense distance that the South has yet to cover. At present we make stoves, car wheels, iron pipe, machinery of many kinds, plows and other agricultural implements, nails, spikes, horse shoes and castings innumerable, most of these belonging to the rudimentary forms in which iron and steel are used. But beyond these are finer goods, of which watch springs and needles are illustrations, which the South has not yet attempted. The shelves of every hardware store are filled with suggestions of what may and will be made in the South when its skilled labor shall have reached the heights of accomplishment. Fortunately for it, as the latest "heir of all the ages," it has not to make the countless costly experiments that have preceded every fresh success in the past. Its great inheritance is well portrayed in the language of one of old: "Other men labored, and ye have entered into their labors."

The difficulties encountered by

every investigator who seeks to wrest from nature the secrets she has hidden in the metals are strikingly set forth in the letter from Sir Henry Bessemer which Sir James Kitson read to the International Assembly of British, German and American Metallurgists and Engineers at Pittsburgh. At the request of the latter the great inventor wrote a modest history of what led him to begin his investigations, of how one experiment led to another, until a casual remark in a conversation about a totally different matter proved to be the spark that fired the train of thought and investigation that finally resulted in the production of Bessemer steel. We should be glad to reproduce that letter in full were we not overcrowded. At present a synopsis must suffice.

At the opening of the Crimean war Sir Henry Bessemer invented a mode of firing elongated projectiles from a smooth-bore gun, his idea being to give to the projectile all the rotary motion and effectiveness of a missile from a rifled gun, and so enable the British service, army and navy, to utilize the many smooth bores they had, and save to the government the heavy costs of new rifled ordnance. The plan was discarded by the government without a test. A little later, while in Paris, the inventor met Prince Napoleon at a social gathering and incidentally spoke of his invention. His companion became interested at once, and before they parted promised to arrange an interview between Sir Henry and the Emperor. The meeting resulted in the Emperor's giving *carte blanche* to the inventor to make as many experiments as he pleased at the fortress of Vincennes. A large number of projectiles were made on his plan, and were tested on wooden targets in the presence of ordnance officers of the French army. At the end of a day's firing Commandant Minie, inventor of the rifle and ball that bear his name, said to Sir Henry that while the rotation of the shot was all right, yet, "unless we have something better to make our guns of, such heavy elongated missiles cannot be used with safety." That night, while riding from Vincennes to Paris, Sir Henry determined to try to improve the quality of iron used in the manufacture of artillery. Writing of this determination, he says: "My knowledge of iron metallurgy was at this time very limited, but this was in one sense a great advantage to me, for I had very little to unlearn, and so could let my imagination have full scope." After many months of trial, involving the expenditure of considerable sums in building and then destroying experimental furnaces, he finally cast a small model gun, which "was wonderfully tough for cast iron, but wonderfully brittle if classed as wrought iron." This gun, beautifully finished, was given to Napoleon, who placed it in a bureau, saying: "Some day it may be-

come an interesting relic." This partial success led Sir Henry to appreciate the importance of making a malleable cast iron that would retain its fluidity, and he began a series of experiments on that line. These were very costly, and beginning to fear that his imagination was running away with him, he consulted an eminent civil engineer, George Rennie, and showed him what he could do. Mr. Rennie was so delighted with the revelation that he invited Sir Henry to describe his discovery in a paper to be read a few days later before the British Association at Cheltenham. Sir Henry prepared and read an essay entitled "On the Manufacture of Malleable Iron Without Fuel," which was published in full in the next day's London Times, and created an immediate sensation. The iron-masters of Great Britain trooped to London to see the new process. In a month from the day the paper was read Sir Henry was paid \$135,000 for licenses to use it. Then came a series of protracted failures. The process would not work, and a complete revulsion of popular opinion followed. The press denounced it as impracticable, and one paper spoke of it as "a brilliant meteor that had flitted across the metallurgical horizon, dazzling a few enthusiasts, then vanishing forever in total darkness." It was not strange that both the iron-masters and the press of Great Britain looked upon the alleged discovery as a chimera, for up to that time pure malleable iron in a fluid state was unknown, while Sir Henry had declared his ability to convert ordinary melted cast iron into a malleable fluid in quantities of five tons, at a single operation, in the short space of fifteen minutes, by the chemical action of cold atmospheric air, using no fuel except that which existed in the form of carbon and silicon in the crude metal itself. Why the thing he knew he had accomplished could not be done by others he was at a loss to understand, but he determined to find out. Then began another series of costly experiments running through many months of close application and hard mental work. Over and over again they proved failures, but the certainty that his process was correct in principle buoyed him up against repeated discouragements, and finally the secret difficulties were all discovered and overcome, and the British iron-masters were most reluctantly forced to admit that the Bessemer process, which has since revolutionized one of the world's greatest industries, was a fact that must be accepted. After that its speedy adoption was a matter of course. The first steel works were built in Sheffield by a new firm, of which Sir Henry and his partners were members. Its success is briefly told in the closing paragraph of Sir Henry's letter in these words:

On the expiration of the 14 years' term

of partnership of our Sheffield firm, the works, which had been greatly increased from time to time entirely out of revenue, were sold by private contract for exactly 24 times the amount of the whole subscribed capital of the firm, notwithstanding that we had divided in profits during the partnership a sum equal to 57 times the gross capital; so that, by the mere commercial working of the process, apart from the patent, each of the five partners retired after 14 years from the Sheffield works with 81 times (8,100 per cent.) the amount of his subscribed capital, or an average of nearly 97 per cent. every two months—a result probably unprecedented in the annals of commerce.

This interesting narrative conveys its own moral. It is brimming with lessons of encouragement and hopefulness to all earnest investigators. Nor is this all. From the days of Tubal Cain until now metallurgists and artificers have pursued their investigations, and have made fresh discoveries that have benefited mankind. The end is still far distant. Fame and wealth are yet to be acquired by continued work. Sir James Kitson incidentally referred to this in concluding his fine address, saying: "The treatment of large masses of steel by tempering, hardening and annealing in water, oil or molten lead has been carefully studied, but the secrets of the behavior of masses of steel in heating and cooling are yet far from being unfolded." These and other secrets of metallurgy will long command the attention of studious investigators, and well reward those who bring any one of them to light.

Before long the MANUFACTURERS' RECORD will be able to publish the details of certain discoveries and inventions that, it is believed, will create as great a revolution in steel production as was accomplished by Sir Henry Bessemer, and will introduce a new era in metallurgy.

HOP CULTIVATION has no showing in the South simply because its people have given it no attention. Yet in the "report on the condition of crops published by authority of the Secretary of Agriculture" October 1st, it appears that the average yield per acre for Alabama is 500 pounds, which is the same as that of Vermont and 20 pounds greater than that of New York. In the same report it is stated, under the North Carolina head, "hops are grown in almost every county of the State, but only for home consumption. The roots never die in winter, and the increase is remarkable." All of which leads the MANUFACTURERS' RECORD to wonder why the Southern States, and especially North Carolina, do not make this staple crop one of their regular sources of profit. Were Alabama hop growers to give the same careful cultivation to that plant that Vermont and New York farmers do, their average would exceed that of the Northern hop-yards, while North Carolina, with all natural advantages favoring her, could successfully compete with the most favored localities in the country. As it is, Southern breweries, that are all the while on the increase, must largely depend on Northern hop-growers for their stock.

Some Lessons from Wall Street's Scare.

"The Argentine troubles are responsible." Such is the reason given in Wall Street for the disturbed condition of that monetary center for the last two months—a condition that puzzled the country, for there was nothing within our borders that justified the grave apprehensions entertained by most of the wisest financiers of New York. That they were greatly worried was apparent to all bankers and business men elsewhere, who wondered why New York had lost courage when the business of the country outside of the metropolis indicated a prosperity unparalleled in our annals. Yet had not the Secretary of the Treasury, in response to urgent appeals, applied all the extraordinary powers conferred by Congress upon his high office, and so relieved this strain, there would probably have been a disastrous collapse in our greatest money center that would have injured every industry, given a severe blow to all new enterprises, and have turned back for a time at least the flowing tide of our national prosperity. Happily "the danger line has been passed," to use the simile of a veteran banker, and the country may now push ahead without fear of a financial panic. The Argentine troubles, it is claimed, are responsible for the temporary monetary stress in Wall Street. Can it be true?

Fifty years ago there were no ocean steamship lines or electric cables, no Suez canal, no continental telegraphs, no railroads from the Atlantic to the Pacific, and but a few short ones anywhere in the world. It took at least two months for New York and Liverpool merchants to exchange letters. The American trader expected that the ship he sent to Rio Janeiro for coffee or to Buenos Ayres for hides would be gone six or seven months, while our silk and tea importers knew that a year would pass before their big merchantmen would get back from China. The mails were equally slow and uncertain. Now the wires over land and under the seas carry hourly their messages between the centers of finance and commerce and the very ends of the earth. Swift steamers have reduced distances by shortening time. All parts of the world are becoming more and more closely united to London, Paris and New York. The first has become the clearing-house of the commercial nations, and to a great extent it controls the finances of the world. The wealth of Great Britain is invested all over the world. Latterly very many millions of dollars have gone into enterprises in the Argentine Republic. The political and financial troubles there affected the London money market to such an extent that it was compelled to ship back enormous amounts of American securities to be sold in Wall Street. It was a flood at the wrong time, for

at this season a heavy draft is always made upon New York from the West and South for money to move the crops, which this year are the greatest in the aggregate value this country has ever produced. It was the wrong time for another reason. Because of the passage of the McKinley bill importers of many classes of merchandise on which duties had been increased rushed their goods into port in unprecedented quantities to avoid paying the new rates, and this made an unusual demand for money. So, while the Argentine Republic had caused a "serious shake up" in London that reacted on the American share and bond market in New York and made a depression of securities that pleased the bear element, it was only one of three influences that simultaneously affected our metropolitan money market.

There are several valuable lessons to be deduced from this New York scare which we can only epitomize. The first is that the commercial world is now so intimately connected that happenings of magnitude in any place, however remote from London or New York, are felt for good or ill in both cities. The second is that the finances of Great Britain and the United States are so closely linked together that the interests of the money marts of both countries have at last become mutual. In that fact lies the assurance that all troublesome questions that may arise between the two nations will hereafter be settled by commercial rather than by sentimental considerations, and hence these two great English-speaking countries will never again be forced into war with each other.

But the final and most important lesson taught by the recent trouble in Wall Street is the reliance of our most eminent financiers upon the growing prosperity of the South as a safeguard against serious financial disasters in this country. The 7,250,000 bales or more of this year's cotton crop, worth over \$400,000,000, were in the minds of the wisest men of Wall Street a reserve force that would retrieve the possible losses of a season of panic, and after liquidation was over would put this country well to the front among the strongest financial nations of the world. There are many indeed who go farther and claim that now that the United States has ceased to be lop-sided and that wealth is fast being diffused through every section—the South making up by its stupendous progress for all the years of its inertness, and taking rank in wealth and vigor with the other sections—the time is fast coming when New York, by virtue alike of its international geographical location and of its being the financial heart of the United States, will become what London long has been, the financial center and arbiter of the commerce and the finances of the world.

Subscribe to the MANUFACTURERS' RECORD.

The Negro's Part in Southern Development.

Bessemer ores in the South is the chief theme of a letter from Col. John Logan Black, of South Carolina, which will be found on another page. Col. Black claims that the Piedmont section east of the Blue Ridge, lying on both sides of the boundary between North and South Carolina, and extending into the latter as far south as Greenville, abounds in Bessemer ores of the best quality. His statements confirm those made last winter by a special correspondent of the MANUFACTURERS' RECORD, who spent a number of months in the district indicated and made a careful investigation of its iron deposits, assisted by several experts. It also substantiates, in so far as the territory covered is concerned, the position taken by Mr. Edward Atkinson in his elaborate paper, published in the MANUFACTURERS' RECORD last month, that the South has in its mineral deposits such an abundance of ores for the making of Bessemer steel that it will not only be able to make all that this country will require, but also that it will be able before long to meet the increasing demands of Europe and the world.

There is one matter referred to indirectly by Col. Black that, outside of what he has to say about the minerals of this section, is worthy of careful consideration, because of the source from which it emanates. Col. Black was educated at West Point, and was a classmate of Gen. O. O. Howard and other distinguished officers of the Union army. Before 1861 he was engaged in planting, and owned many slaves. When South Carolina seceded he accepted command of a cavalry regiment and bore his part in the war. When he surrendered he resumed his old occupations until he saw that the rehabilitation of the South must come through a diversification of its industries. He, therefore, abandoned planting and turned his attention to the iron ores that abound in that district. The testimony of this former slave-owner and ex-Confederate officer as to the status of the negro, his reliability as a laborer, his adaptability for all branches of work at the mine, the furnace and the foundry, may be received with perfect confidence. He knows of what he writes. His evidence is worth far more than that of politicians and sentimentalists of either party, because it comes from a sincere, experienced, and very practical man, who has no other interest to serve than the creation of permanent industries in his State and section.

THE MANUFACTURERS' RECORD acknowledges the receipt from the Department of State, through Mr. William E. Curtis, executive officer of the recent International American Conference, of sundry pamphlets containing the various reports emanating from that notable meeting. These

are respectively entitled "Reciprocity Treaties with Latin America," "International Monetary Union," "Postal and Cable Communication with Central and South America," "Plan of Arbitration for the Settlement of Disputes Between the American Republics," and the "Reports Relative to an Intercontinental Railway Line." While all these are interesting, the last named is the most important in its bearing upon the future of Southern commercial intercourse with our "sister republics."

Can Fish Meat Be Desiccated?

A reader of the MANUFACTURERS' RECORD asks, "Can fish meat be desiccated and so made as much of a portable article of commerce as are many other kinds of food? He then refers to the boundless food supply that can be drawn from the South Atlantic and the Mexican gulf waters and from the bays and estuaries of their respective coasts. He intimates that if in addition to pickling, dry salting and smoking, the ancient and still observed methods for curing fish, there could be found some better plan that should preserve that class of food products as the evaporating process does the most delicate and delicious fruits, it would add greatly to the earnings of the "toilers of the sea" in the South, and furnish a new and important industry to labor and trade.

Can anyone answer this question? The MANUFACTURERS' RECORD will be happy to publish all well-considered, intelligent replies that may be addressed to its editor.

Aside from boned codfish, which is simply the shredded meat of the salt-cured fish put up in convenient form for retail stores and domestic use, there are but few articles known to the trade that even approximate that which our correspondent is trying to find. Large dealers keep on hand the Holland "stockfish" and the Halifax (N. S.) air dried cod. Both these are but slightly salted, but they are to fish meat what "jerked beef" is to that cured by salt or smoke. In the large Chinese markets of San Francisco numerous varieties of imported air and sun-cured fish are sold of which the American grocer never heard, but these, like the Halifax cod and the Dutch stockfish, are hard, horny, translucent looking things, edible and nutritive when soaked in water a sufficient time, but not tempting in appearance to the average American. All these are like the cod, soft-meated in their natural State and easily shredded from their bones. While excellent as food, they do not rank with the blue fish, the pompano, the Spanish mackerel, the salmon, or even the shad, in juiciness and flavor. Can these and other favorites be cured without salt, so that their fine peculiar flavors may be preserved? That is the question we are asked to suggest to scientists and practical

men. If it can be answered in the affirmative, then a new industry of a value beyond our power to estimate will be opened up to American fishermen and to our commerce and trade.

An Intercontinental Railway Line

The passage by Congress of an act authorizing the President to appoint three representatives of the United States as members of an international commission, the creation of which was recommended by the International American Congress, has been followed by the announcement that Hon. H. G. Davis, of West Virginia, and two colleagues have accepted the positions tendered them, and that they will at once open offices in Washington and be ready to meet there the representatives of Mexico and the several countries of Central and South America. The business of this commission will be to ascertain the best route for a railroad connecting together all the nations represented in the recent conference, in order that through it cordial relations may be developed between them, and that the growth of their material interests may be promoted.

The first move of the commission when fully organized will be to ascertain which route is apparently the most practicable for all the purposes contemplated, and then to arrange for the necessary preliminary surveys. The expenses of this commission, and of such surveys as it may authorize, will be borne by all the participating nations in proportion to their population. If the survey demonstrates the practicability and advisability of the proposed railroad, then the commission is authorized to issue proposals for its construction. Should the road be built it is by the solemn pledges of all the nations to be declared forever neutral, but before any final action is taken towards its construction all matters relating to it, from the approval of the surveys to the free passage of merchandise in transit, must be the subject of special agreement between all the nations interested.

It is now a dozen years since Hon. H. H. Helper, then of St. Louis, offered cash prizes amounting to \$5,000 for the best essays in prose and poetry setting forth the feasibility and desirableness of constructing a "Three American Railroad," that should run from Alaska to Patagonia. Numerous writers responded. Capable critics read the productions of the competitors and awarded the prizes, which were duly paid. The great majority of Americans at that time looked upon Mr. Helper as an enthusiastic dreamer and the scheme as visionary. So rapid has been the march of events, so great the development of railroads, not only in the United States, but in Mexico, Central and South America, that now the representatives of all these nations have sanctioned the scheme, and its ultimate realization is one of the certainties of the future.

SOUTHERN BESSEMER ORES.

BLACKSBURG, S. C., October 18, 1890.

Editor Manufacturers' Record:

I have been much pleased with the brilliant review of the world's iron and steel trade by Hon. Edward Atkinson in a late issue of the MANUFACTURERS' RECORD. As regards the Bessemer ore resources of the South, I fully endorse all said in the letter of Col. George B. Cowlam, of Knoxville, Tenn., and Major Goldsmith B. West, of Tredegar, Ala., published in connection with Mr. Atkinson's article. Put together even all the rosy accounts given in print in the last few years as to the vast resources of the South, and so far from not being true, the one-half of all the simple truth has not yet been told. Indeed, the simple truth here is "stranger than fiction." Our vast mineral resources, while frequently written of, have not yet been described, and every day brings to light formerly hidden resources of untold wealth. It seems that a compensating Providence is opening our eyes to what vast sources of wealth are so abundantly stored in our mountains, valleys, and even in our river beds; and after having fallen utterly prostrate by the results of the late civil war, by which slavery as a social and political evil went by the board, we have awakened resuscitated and rejuvenated, and, with the fiery vigor of true Southern character, gone to work to develop the vast resources of our section of country; and, mark my words, we will, in the region Messrs. Cowlam and West so truly describe, soon develop our industrial resources, and upon them a new civilization and sectional prosperity that will give this Land of the Sky—these valleys and mountain slopes—a position for material wealth and general prosperity which would, in all the Union of States, point it out as one of the seats of empire and power.

With the great coal basins, as well as the Tennessee and Alabama ores, I am not personally familiar, but know enough to say that their great extent baffles description. With my native section of this mineral belt I have been familiar from boyhood, and I think I have a right to speak, as I am the only son of an iron-master who built the first blast furnace of any size here as far back as 1827, and the first mill that ever rolled iron south of the Potomac in 1832, and I am now writing within sight of these two old iron plants. Those who are disposed to be skeptical will find the first written notices of our ores in the reports of Messrs. Tuomey and Leiber, State geologists, published by this State in 1845 to 1854, which volumes will be found in the libraries of the different States. Let it be remarked that Prof. Tuomey afterwards made an extensive survey and reports in full of the ores in the great Alabama region, and that these reports were afterwards used as hand-books in making the wonderful developments which now exist in that region, and the reader will be willing to take Tuomey as authority.

Premising this much, we will only speak of what is near the spot on which this is written—the Piedmont iron belt, beginning, say, at the city of Greenville, running via Spartanburg, Gaffney City, Blacksburg, South Carolina, to Gastonia and Lincolnton, North Carolina, on a line conformable to the rocks of the country. There are innumerable deposits of iron ore, and the greater part of them of Bessemer grade, many rich in metallic iron and low in sulphur and phosphorus, while some contain these elements. Limestone abounds in a continuous line parallel with these ores, and small establishments (orges) made iron from Greenville to Lincolnton at different points on this entire line as far back as 1775—the old sites and cinders yet to be seen. Of this locality, in which I have been for two and a-half years past exploiting mines, I can speak more particularly,

as the whole is marked into distinct lines, the general trend being about 50° N. E. and S. W.

1. Comes the gneissoid granitic p'ains or slopes of Cleveland county, North Carolina, and Upper Spartanburg and Greenville counties, South Carolina.

2. The itacolumitic belt. Here at Blacksburg the Whitaker's mountain range. (This, by the way, should be bored into, as there exist many chances for oil cavities, natural gas, and, mayhap, diamond formations, this sandstone being the general accompaniment of such precious stones, and even now garnets by the car-load, many of them as large as goose eggs, are being mined near here, northwest of the itacolumite.)

3. The limestone belt, varying from one-half to one mile in width, with continuous outcroppings from Spartanburg, S. C., to Lincolnton, N. C., and beyond. This limestone is dolomitic and is described by Leiber as in two folds. The writer does not agree with him, as it seems to be in four seams, the under one of which, an impure limestone, is actually cement rock, as, after calculations, the analyzing is:

Silica	29 68
Iron oxide and alumina	4 97
Lime	63 11
Magnesia	2 24
	100 00

4. Next to the limestone come the so-called talcose slates, in the folds of which are imbedded the magnetic oxides, which have been known and worked since 1825.

The soft ores were alone known and worked in the ancient cold blast charcoal furnaces prior to the war. The hard or lump ores have been fully exploited and developed and tested within the last two years. They will run over 50 per cent. metallic iron and as low as 0.025 to 0.001 per cent. of phosphorus, and are devoid of sulphur or titanium. The soft ores, not so rich in metallic iron, can be readily reduced and concentrated so as to average

Metallic iron	65 to 68 per cent.
Silica	2 to 4
Phosphorus	0.005 to 0.015

and in this form will be in good trim for "fix" for mills as prepared for blast furnaces.

5. The mica schist slates of the Kings mountain range, containing vast beds of limonite and hematite ores, many of which are of Bessemer grade.

6. The manganiferous belt, traceable here for 25 miles in a continuous line, and which is now being developed and promises well.

7. Belt of hard slates capped by seams of roofing slates, not explored save by railroad cuts.

8. Range of sulphate baryta or heavy spar, which has been explored and fully tested.

9. The gold belt—Martin, Smith, Love, Darwin, Fairforest, Nott Hill and Thompson mines, and farther to the southwest the celebrated Dorn mine.

10. The gold and copper bearing rocks mines of Gaston county, N. C.; in York county, S. C., the Wilson and Mary and Bolton copper mines, etc.

In the third division—limestone—we have made no note of the frequent seams, or rather small streaks of argentiferous galena that are met with, as all that have been found, while rich in silver and lead, are met with in such small quantities as to not be workable (the Morgan silver and lead mine, near Gaffney City, worked during the late war); nor has reference been had to the streaks of tin ore met with and running from King's mountain in North Carolina to and beyond Blacksburg in South Carolina; or to the extensive leads of fire-clay found in and near the town of Blacksburg, S. C., and formerly used in the local iron furnaces.

This region has formerly been locked up for the want of railroad facilities, but is

now open or being opened, the Richmond & Danville system paralleling the entire section described; also the Three Cs (Charleston, Cincinnati & Chicago) Railroad, with its connections, is now being operated from Marion, N. C., via Blacksburg, where it crosses the Richmond & Danville main line, to deep water at Charleston, S. C., or Portsmouth, Va. The same road has been competed some distance north and south of Johnson City, Tenn., and with an unfinished gap of 51 miles from Marion, N. C., north, will open up the great coal fields north of Johnson City to us, and insure our development and prosperity.

In fine, the writer believes we have a vast and practically inexhaustible supply of steel ores, and as for ores of the lower types, there is no spot on earth so peculiarly favored.

We are here prepared to feed a furnace with Bessemer ore and limestone at a cost of less than \$5 per ton (of output per ton 2,268 pounds), and even now coke can be had at such rates as would put cost of Bessemer pig at likely under \$10, and certainly under \$12 per ton, while we can produce iron to compete with any section of the Union, quality being taken into consideration.

Our material prosperity is not alone dependent on this. In the production of the South's moneyed cotton crop this Piedmont belt does a full share. The regular rainfall, the mineral ingredients of the soil, the cheapness of and nearness to the great phosphate beds just below us, enable our people to produce cotton at small cost. Add to this the fact that we have here no boll-worms, rust, caterpillars, etc., which often blight the crops of the richer alluvial Southwest, and the fact that our crops never vary 10 per cent. from year to year, and still further to the fact that improved methods of cultivation and fertilization have increased our production 30 to 40 per cent. per acre, and it will readily be seen that we have a boom in cotton alone.

Nor is the production and sale of the staple at \$50 per bale by the farmer all the profit that even now does and certainly will speedily entirely accrue to and belong to this favored section. By doing as we are now doing in great part, and soon will entirely do—spinning and weaving all the cotton we produce here (and more too)—each bale of cotton will leave us not \$50, but \$125.

Within a radius of 60 miles from the spot at which this is written are over 30 mills, most of them large (for the South)—water mills which have been operated 8 to 10 years past, paying over 25 per cent. of annual profits; and the stocks of several of them can be seen daily quoted at 145 to 165, 100 being par.

As a good reason for this, labor is cheap and reliable, living is cheap, and in spite of all that has been said, all "hands and the cook" amongst our people are not only willing to, but do work for a living, and many there be, who, with a laudable ambition, are working to better their condition and to even amass wealth.

Nor is this all. The grain crops are so good as to sustain the country. Indian corn 50 cents the year round; and yet more, an acre of cheap land (\$1 to \$10 per acre) will produce more potatoes of either kind, cabbage, turnips, etc., than an average family can consume in 12 months, and at the same time another acre will feed a cow and raise a 300-pound hog. Yes, it is a land of hog and hominy—a land that flows with milk and honey—but a land that needs, to develop all of its vast and varied resources, additional capital faster than it can be generated here, and especially additional mechanical and engineering brains. Come who will to aid us in these lines and he will be made welcome, and be certain to find a magnificent clime to live in, and lines of

industry and development opened up to him by which he can employ his labor and his capital to greatest advantage to himself. Nor is this all. The freedman stands here present in the full enjoyment of his newly acquired freedom. As a laborer he has no equal for patient industry and mule-like endurance. Once, as a slave, he was the property of a single master, who was compelled to own an average of four or five slaves to each stout, able-bodied man laborer. At the beginning of the war slaves averaged \$800 per head, hence the owner had invested \$3,000 to \$4,000 to own a single man laborer. Interest on investment \$280 to \$350. This same negro laborer, by the blessings of freedom, is now willing to toil from year's end to year's end for about one-half of the above-named tax, which the writer and others once paid for the fruits of his labor; and in no section of the South can this same freedman be found so fat, so greasy and so happy as right here. He is, to use a homely phrase, hoeing his "own row," happy and contented, and every honest man here will treat him fairly and squarely, giving him all of his dues. And if the cranky sentimentalists and the rascally politicians, both North and South, would let him alone to enjoy the fruits of his labor, he would continue happy and contented, and be what he is, the most important working factor in the development of the great and varied resources of our country.

Before discussing the colored brother, we would remark that old Jack Richards, our father's slave, who lies buried near here, as a successful iron founder, ran and managed a furnace here for over 20 years, while other slaves were hammermen, puddlers, rolling mill hands, machinists and blacksmiths—some of them yet here. And if that Federal Congress that has shown so little friendly feeling towards the South—that same Congress that spends so much time in buncombe acts for Cuffie's vote (not his welfare)—does not interfere, this same freedman is the iron mine laborer, the furnaceman and the mill man of the future that will yet aid his white friends of the South to take the lead in the cheapest production of iron on this continent.

You differ with the views of the Hon. Edward Atkinson as to duties on foreign ores. We agree with him. Our business is ore and the production of steel ores, which alone are imported. They should come in as raw material FREE, and no one here would be the loser. By removing the tax we would get a much larger amount from abroad, and would help to raise the price on the English and continental consumer to such an extent as to cause a rise in steel which would compensate us. Besides, free ore is a matter of absolute necessity to New England, and almost as much so to some portions of the Middle States. This large area should not suffer simply to benefit a much smaller extent of country.

And again, as a matter of policy, the whole Atlantic coast line, from Maine's northern border to the Gulf of Mexico must now be united in one common bond of interest, and to New England's surplus capital and its manufacturing brains and experience we must in this middle Atlantic slope look mainly for aid in building up our own industries.

AS TO BOOMS BUT A WORD. There may be, and doubtless are, spots within our borders that have been gilded with advertising pages of printers' ink. There are most certainly "PROMOTERS," a class to be always found in every region of actual or speculative development amongst us, but—

THE WHOLE SOUTH IS ON A BOOM.

With a cotton crop of 8,000,000 of bales now going on the market at 9½ cents in the interior towns, and cotton firm at this; with our constantly increased yearly production; with South Carolina and Florida phosphates enough to last for ages; in spite of the immense draft on our working popu-

lation for railroad building, manufacturing and other purposes, we will steadily increase our annual production, but should anything like an accelerated demand, as Mr. Atkinson terms it, spring up, which is likely to be the case with so many other demands on our labor market, the price must and will advance, and even when we reach 10,000,000 of bales the price is more likely to be 12 than 9 cents. Every cent of rise, as the cost of production is lessening every year, simply means millions of capital generated here at home, much of which will go into manufacturing our cotton product at home, thus paying us \$125, not \$50, a bale—22½ cents per pound, not 9½ to 10. So much for cotton. If we are to increase our iron production, even on the scale of the last 10 years' increase, or to have from our natural resources an accelerated artificial or abnormal increase; if we are, as has been prophesied, to lead every other section of the United States in production,

IRON ADDED TO OUR COTTON PRODUCTION will make this sky land one of the most important sections of the Union, and will speedily develop not only that higher condition now to be met with in the Middle and New England States, but will make it a moneyed center and add much to its future political power.

THE NORTH OWES MUCH TO THE SOUTH, for the latter, by going into "so-called rebellion" in 1860, enabled the North to develop and show to the world not only its great military resources, but to develop its immense manufacturing resources, and to grow rich on the results of the war in spite of excessive taxation. And that section came out of the war with nothing lost but its mercantile marine, which by unwise legislation will remain lost until the trade demands of this country force its restitution.

THE SOUTH OWES MUCH TO THE NORTH for wiping out the blot of slavery; for protracting the civil war until they of the South had learned the full value of their manly vigor and courage, and conquered when turned loose, notwithstanding the bitter and adverse legislation of reconstruction days. Schooled in adversity, the fiery-blooded Southerner turned his sword into a plough-share, and put himself to work to repair and regain his fallen fortunes, and as he cast his eye around, he saw at a glance those immense natural resources the God of nature had provided for him and stored so bountifully in the soil and in the bowels of mother earth, and, as may be seen, the Southerner is up and moving, and will march on in the tide of progress till he is either squarely abreast of or in advance of his conqueror.

JNO. L. BLACK.

THE Niagara Stamping & Tool Co., of Buffalo, N. Y., has recently lost one of its founders, Mr. George J. Munschauer, who died October 1st, aged 48 years. The employees of the company expressed their appreciation of the deceased and their sympathy with his family by adopting appropriate resolutions and by attending the funeral in a body.

THE MANUFACTURERS' RECORD has done and continues to do the South invaluable service, and its "reviews of Southern progress" should find space in every Southern newspaper. In this fine showing Fayetteville takes her place, and is fast "catching step" to the tune of the "grand march" of Southern progress.—Fayetteville (N. C.) Observer.

ADVERTISERS wishing to reach the manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South cannot find a better medium than the MANUFACTURERS' RECORD.

SUFFOLK'S PROGRESS

Powerful Interests at Work to Make It an Industrial Center.

Already the Railroad Key of Eastern Virginia.

Prominent Baltimoreans Heavily Interested in Its Commercial Development—Advantages Its Citizens and Its Location Offer to Manufacturers and Investors—Cheap Lands, Cheap Coal and Low Freight Rates—The Head of Navigation—Sale of Lots by the East Suffolk Land Co.

[Special Cor. MANUFACTURERS' RECORD.]

SUFFOLK, VA., October 20, 1890.

Probably nowhere in the entire New South is the substantial foundation of the present well-nigh universal Southern development more clearly demonstrated than in the steady advancement in material welfare of this prosperous little city of Suffolk, Va. In the face of an utter absence of anything akin to a land boom, and even without the knowledge of a majority of those whose gaze has been riveted upon the amazing magic which with one touch transforms Southern cornfields into modern marts and hives of industry, Suffolk has, through sheer force of the onswEEPing tide, been carried from a sequestered hamlet to a thriving, ambitious and rapidly-growing trading and industrial center. Although the foundations of the Suffolk of old were well-nigh moss-covered before this nation had its birth, and there is pointed out to the curious a house in this town where George Washington slept when he came down to the Dismal Swamp to undertake his first job of surveying, yet the Suffolk of to-day is no older than the regenerated South, for we find the census of 1870 places her population at just 930: in fact, the most important era of the place begins no longer than three years ago, at which time new railroad enterprises and industrial developments had begun to vitalize the entire South, and new, warm blood was sent throbbing everywhere along the great arteries of commerce. With very little outside assistance, her own citizens began the work of upbuilding and started her on a career of progress, of which the present situation is only a promise of the things which are to come. Although twice afflicted with disastrous fires within the past five years, the elasticity shown in speedy recovery and the substantial character of the business houses of to-day clearly demonstrate the grit and the faith of the men who have the destiny of the city in their hands.

It has not been until very recent date that the attention of outsiders was especially attracted to the splendid railroad and navigation advantages possessed by Suffolk. When they looked into the matter they found this was a junction point for six different railways, and was also the head of ocean navigation via the Nansemond river. They found here the Norfolk & Western, connecting the city with the ocean by rail and affording direct communication with the great Pocahontas coal fields of Western Virginia; the Atlantic & Danville, striking westward to the rich tobacco fields and great coal lands of Southwestern Virginia; the Seaboard & Roanoke, giving access to the Carolinas, Georgia and Alabama, and the Norfolk & Carolina Railroad, affording further connections with the South, while the advantages and importance of the place as a railroad center were further accentuated by its being the initial point of two flourishing narrow-gauge railroads, the Suffolk & Carolina Railway and the Suffolk Lumber Co.'s railroad.

The fact is, Suffolk has advantages which her own people as yet hardly appreciate. With a belt railroad connecting every rail-

road depot, and with a wharf at which vessels drawing 12 feet of water tie up with ease, the situation is one to be envied by even the most favored points, as it makes possible the profitable handling and shipping of manufactured goods, raw materials and bulky, weighty products at rates far below those obtaining where much drayage is necessary, and where no navigable waters exist to force upon the railroads a schedule of low carrying charges. To those who see and fully appreciate these advantages it appears that Suffolk is inevitably bound to become an important manufacturing point, and a jobbing and commercial center of very high rank. Even now she is beginning to fulfill the destiny which nature seems to have in store for her, and factories, mills and machine works are beginning to occupy the field which lies open to them. There are present here some twenty industries, including very large saw and planing mills, shingle mills, a wooden butter-dish factory, packing and canning establishments, iron works, carriage factories, brick factories, oyster houses, etc., and the advantages are so apparent that a number of iron and wooden industries of various kinds are now on the eve of locating here. It is confidently expected by those who have given the matter their attention that within a year there will be, in addition to those already assured, a number of new and important industries successfully established at Suffolk, among which are mentioned ship-yards, engine and car factories, machine shops, woolen mills, cotton factories, canneries, bark mills, and numerous iron works and manufactories of wood for the various uses of commerce.

Realizing the splendid opportunities this situation affords, Mr. Chas. H. Jones, Jr., the vice-president and general manager of the Suffolk & Carolina Railroad, and a number of associates here and at Baltimore have recently organized a company which has for its object the development of industries here and the settlement of a large tract of hitherto unoccupied ground contiguous to four of the railroads, and likewise the belt road, and it is the purpose of the company to carry out this design in the most comprehensive and thorough manner. From the personnel of this company, which is called the East Suffolk Land Co., it is easily seen that the hopes of Suffolk's most enthusiastic friends are based on a foundation of uncommon strength. In the directory of the company are, in addition to Mr. Jones, of Suffolk, Messrs. Skipwith Wilmer, of Barton & Wilmer; John Gill, president of the Mercantile Trust & Safe Deposit Co.; H. Irvine Keyser, director Farmers' & Planters' Bank; J. W. Middendorf, of Middendorf, Oliver & Co., bankers; Jacob Hecht, capitalist, and Max Greif, of T. Greif & Bro., wholesale clothiers, all prominent Baltimoreans, while among the list of stockholders are such men as E. F. Abell, of the Sun; E. F. Larrabee, O. A. Parker, John M. Robinson, Chas. Selden, A. A. Bresee, Leon Lauer, D. B. Merryman, J. G. Kraft, H. G. Vickery and other almost equally well-known Baltimoreans, as well as capitalists from Suffolk, Norfolk and elsewhere.

The prospectus of this company announces some facts and suggests others in connection with the movement they have undertaken which are of considerable interest in this connection. It is stated, for instance, that the census of 1890 gives Suffolk 5,000 people, but any one accustomed to cities of that size elsewhere would find it hard to believe there are less than 7,000 here. The city is well built, with very few vacant lots in the older part, and yet it occupies a large territory, and supports numerous prosperous looking shops and stores. Inquiry reveals the fact that over \$1,000,000 is annually paid out to wage workers here, and the capital employed in business and industries amounts

to considerably more than \$3,000,000. There are two banks, one a State and the other a national. The first and elder bank has \$20,000 capital and a comfortable surplus of \$60,000.

The pleasing fact is revealed that the town debt is only \$8,800, and the town tax, for all purposes, amounts to just 1 per cent. per annum. Twenty-two passenger trains depart from Suffolk daily, and steamers ply between here and Norfolk and between Suffolk and Baltimore regularly each day. I am also informed that ships are loaded here with cargoes of ties, etc., for Liverpool, and it is no uncommon thing to see from six to twelve three-masted schooners at the wharves here with cargoes to or from various coast points.

The city has an excellent system of water works, even supplying the neighboring city of Portsmouth, twenty miles distant. An electric-light plant is about ready for operating, and a street-car company has recently been chartered. There are plenty of churches, daily and weekly newspapers, and Suffolk's public and private schools have become quite famous for their excellence. The society is of a very desirable character, the people being universally law-abiding, Sabbath-keeping and prosperous. It is a noteworthy fact that while enormous wealth is not found, the other extreme is also absent, and Suffolk has no paupers. The climate here is exceptionally equable, and while extreme heat never occurs, yet the magnolia and fig tree flourish. Handsome houses, with well-kept lawns and luxuriant gardens of tropical plants and beautiful flowers, attest the kindness of the climate as well as the taste of the owners. It is recorded that in the matter of health Suffolk is in the front rank, her elevation above the sea level being sufficient to give her an excellent drainage, and fevers and malarial diseases are practically unknown.

A story was told me the other day regarding one of the industries in which Suffolk could easily take first place, which would seem to me fabulous were not my informant thoroughly conversant with the facts. It appears that garden "truck" ripens here from two to four weeks earlier than in New York, and this, with the almost ridiculously low freight rates, and the fact that it is only one night away from New York, make it possible to secure enormous returns from "truck" farming. My informant, pointing to a place near the edge of town, said: "There lives a man who bought 165 acres of ground some time ago for \$4,000. He put it in 'truck,' and the first year he not only paid for his place, but had \$3,000 besides." Then continuing, he related the experience of another truck farmer who had the past year cleared \$36,000 off a truck farm of about 400 acres. The truck farms about Suffolk might with the proper effort be made just as famous as the celery gardens around Kalamazoo, and with far greater profits.

It really seems strange to me that there is not a big emigration from portions of the North and West into Virginia. I hear complaints continually of the lack of skilled labor and mechanics, and with the location of new industries here and the train of followers they bring—shop-keepers, grocers, etc.—and the demand for houses which inevitably follows, there is bound to be an embarrassing scarcity of carpenters, bricklayers and similar workmen. Wages are as high here as in Chicago or Kansas City, and the expenses of comfortable living are less than one-half as much as in either of these cities.

Suffolk never has had a boom, as I stated in the beginning of this article, and even now it is not the design of the East Suffolk Land Co. to inaugurate anything like a fever of speculation. The gentlemen interested in that enterprise feel they cannot afford to have even a remote connection with any project not based on conser-

vatively and entirely on merit. What they propose doing is simply to secure factories, industries and enterprises, and homes for workmen and others on the 940 acres of ground owned by the company. They maintain that Suffolk ought to have iron factories when she can get ore in almost any direction and Pocahontas coal at advantageous rates, and can ship her wares by water direct to any port in the world; that she ought to have mills and wooden factories, since she is in the heart of so excellent an agricultural and timber country, and that she ought to have hundreds of other factories and industries which her situation and advantages make it profitable for her to work, and they therefore propose to do everything in their power—by donating sites, taking capital stock and personally presenting the matter to those interested—to make Suffolk the business and industrial center she should be.

In order to familiarize their friends and the public generally with the situation here, the East Suffolk Land Co. has decided to get up a big excursion to this place, the excursionists to arrive here the morning of November 19, and spend that day here. To give those who may feel so disposed an opportunity for investment, the company will put up at auction on that day 500 of the 4,700 lots their tract contains. The lots are 50x150 feet. The company's tract is very beautiful and well located, and it is freely predicted that not only will all their enterprises be successfully carried out, but so generally will interest be aroused in their efforts that a crowd of 2,000 or 3,000 people will be here on the 19th of November, including visitors from New York, Boston, Philadelphia, Washington, Baltimore and dozens of Virginia, Maryland and Carolina places.

ALBERT PHENIS.

Notes from Staunton.

STAUNTON, VA., October 20, 1890.

Editor Manufacturers' Record:

In my last week's letter the main points were outlined of Staunton's preparation for placing the property of the Staunton Development Co. upon the market.

There is little to note this week with two exceptions. The stock is going off quite rapidly, and at the present rate will no doubt have been all taken up within the next two weeks.

The new map, giving the lay-out of the whole situation here, is out this morning. A fair study of it shows the strength and hopes of this city, and is giving zest to all those who have seen the wonderful growth just ahead.

These maps are mostly in the hands of those placing the remnant of the stock.

The manufacturing sites, for the most part, hugging the Baltimore & Ohio Railroad, are being taken up day after day by concerns formed first to be solid before any contract is closed.

The numerous manufacturing establishments already here for some years have as a rule been highly prosperous, and probably it is well to say that Staunton will ultimately rest greatly upon this interest.

Heretofore, in addition to manufactories, she has accumulated her wealth largely as a jobbing center. The produce of the surrounding country is distributed from here much after the fashion of the trade of Northwestern Minnesota and Minneapolis. Of course this is on a greatly reduced scale, owing to a thinner population, but the point here is simply to establish the relation of Staunton to the people in this section of the State. That relation makes her a city of gradual accretion in money and territorial growth, and as sure as there is any development to come to Virginia, Staunton will develop as a natural point of absorption.

W. E. CHRISTIAN.

Middlesborough's Wonderful Progress.

Distinguished Visitors and Great Industries.

[Special Cor. MANUFACTURERS' RECORD.]

MIDDLESBOROUGH, KY., Oct. 16, 1890.

There are a number of distinguished visitors in the city this week, most of whom will remain here until the great sales which have been announced to take place commencing on Monday, November 10th. Prominent among these are Jacob Higson, Esq., of Manchester, England, who is known throughout the world as one of the most eminent mining engineers of Great Britain. Mr. Higson is a prominent director of the American Association, Limited, and he visits Middlesborough to meet his fellow-countrymen who are members of the British Iron and Steel Institute, who are to arrive here on Tuesday next, the 21st inst. Mr. Higson is very enthusiastic over the future prospects of Middlesborough, and has recently put considerable money in several new industries which are started here.

We are honored this week by the presence of a real member of the British nobility in the person of Lord Montague, nephew of the Duke of Buccleugh, Scotland. His lordship visits Middlesborough for the purpose of making investments. He will remain here several weeks.

Signor Brageotti of the Colombian government arrived here this week, intending to make Middlesborough his home. He is a distinguished gentleman and a mining engineer of note. Arrangements will be made to secure his services for the American Association, Limited.

Mr. F. W. Scott, a prominent capitalist of England, and a large manufacturer of wire rope, is also visiting the city with a view to establishing a plant. Mr. Scott is a heavy stockholder in both the Town Co. and American Association, Limited. He believes implicitly in the future of the marvelous city, and says that a number of his countrymen will visit us between now and Christmas and invest.

Mr. and Mrs. Broadhurst, of Manchester, England, arrived to-day, and will remain several days in our city. Mr. Broadhurst is a director of the Northern & Western American Association, Limited, which is affiliated with the American Association, Limited.

Mr. Geo. W. Higson, of Manchester, England, is spending a few weeks here, looking especially at the coal and iron mines.

Another very important arrival is Mr. Geo. Thompson Powell, a distinguished solicitor of London, England, who is making investments for his English clients. Mr. Powell will remain here some weeks, and will visit other cities in America before returning to England.

Mr. W. B. Jeffrey, the well-known mining engineer of London, England, also arrived to-day. He comes to report on additional coal properties that the English syndicate intend to purchase.

Mr. Edward Hanny Watts, of London and Swansea, England, the largest coal dealer in the world, and the president of the Watts Steel & Iron Syndicate, Limited, is also one of the arrivals, and will spend several weeks in this city, visiting his sons Messrs. Edgar and Frank Watts, who reside at Cumberland Gap. Mr. Watts states that he intends to erect in Middlesborough the most perfect iron and steel plant of America; that no money will be spared to accomplish this purpose, for he has thoroughly examined the supply of coal and iron found in the neighborhood; that he has become perfectly satisfied that both the quality and quantity are such as to meet the wants and requirements of all manufacturers who look to the best results. Mr. Watts is also contemplating the removal of an entire structural iron works from Eng-

land to Middlesborough, with a capital of \$5,000,000.

Professor John R. Procter, State geologist of Kentucky, with an advanced guard of ten members of the British Steel and Iron Institute, arrived here to-day, and will remain over until their associates reach here on Tuesday next. During the visit of these engineers, Professor Procter will deliver, at the Middlesborough Hotel, a lecture which he has carefully prepared on the geographical, topographical and sectional situation of this section of the country, giving the location of the coal and iron ores as found from Asheville, N. C., to Pineville, in Bell county, Kentucky. Mr. Procter will show the guests and will explain to them a map which has been presented to him by Hon. Abram S. Hewitt, of New York, which shows the exact location of iron ores in America. This map was presented to the Professor for this especial occasion, and the compliment and honor conferred is one which Middlesborough should appreciate, as the information is exclusive and valuable in the extreme. The body of the Steel and Iron Institute will arrive here on Tuesday morning next, the 21st inst., 310 members coming, and occupying three special trains of Pullman cars.

A representative of one of the leading steel car works in the country has called upon Mr. A. A. Arthur, president of the Middlesborough Town Co., to negotiate for the organization in this city of a company to erect a large plant of that nature in Middlesborough. It is more than probable that the contract will be signed within the next few days.

A large New York concern is contemplating the establishment in Middlesborough of a mammoth cast iron pipe works, with a capital of \$500,000. Their representative informs me that the contract has already been signed, and that material is now being shipped to the city for the erection of the works.

The Griffin Car Wheel Works, of Detroit and Buffalo, one of the best of its kind in America, are also contemplating the erection of a large plant in this city.

Negotiations have been completed for the establishment in this city of a large brewery, cold-storage and ice manufacturing company with a capital of three hundred thousand dollars. The incorporators are Alex. A. Arthur, Frank Overbeck and W. J. Overbeck, the two latter being of Cincinnati, Mr. Frank Overbeck having for years been president of the Foss-Schneider Brewing Co., of Cincinnati, O. The plant will occupy ten acres of ground, the main building to have three hundred feet frontage; work has commenced already, the plans being made by prominent Chicago architects. The brewery establishment will have a capacity of fifty thousand barrels per annum; in connection with this there will also be a steam-bottling works. A cooperage works is also contemplated in connection with the plant. The cold-storage department will be of considerable importance to the people of this city. The ice establishment will have a daily capacity of 25 tons. The name of the company is the Overbeck Brewery, Cold Storage & Ice Manufacturing Co.

Middlesborough already has one opera-house, but steps were taken to-day for the organization of a company to erect on Cumberland avenue a handsome theatre with first-class appointments and with all the comforts and accommodations of a city theatre. The building is to be one hundred and fifty feet deep by one hundred feet wide, and will be built of stone found in the quarries of Middlesborough. The principal movers in this enterprise are Messrs. John M. Brooks, O. O. Hall, Frank Overbeck, G. W. Arthur and W. E. Scarritt. It is proposed to have the theatre finished so as to be able to open it by the first of March, 1891.

Enormous work is now going on in Middlesborough; the leading streets are piled high with brick, stone, lumber, etc., for building purposes. Wherever the eye looks one can see large brick and stone buildings rising as if by magic from the ground. Six handsome new iron bridges are now being constructed over the creek and canal, two of them being one hundred feet wide. Parties who have visited Middlesborough during the first year of its existence will not recognize the place at all when they return, so changed has it become from the enormous improvements that are daily being made. O. O. H.

SAVERNAKE.

SAVERNAKE, VA., Oct. 20, 1890.

Editor Manufacturers' Record:

The persistence with which a meritorious offer for profit is kept before the investor is, in most cases, the measure of its success. Saverlake could easily, under a mistaken policy, afford to consider the success accomplished sufficient guarantee of the future to relax the efforts made, and rest on its laurels. If "eternal vigilance be the price of liberty," unceasing energy is the price of success in such enterprises as Saverlake and others of like character in the South. Those who have at heart the true interests of the South look to industrial development as the only hope for permanent prosperity. A purely speculative town enterprise is an injury to the South. To the industrial city a period of general financial disturbance will mean but the crucial test of its fitness to exist. Then will be apparent the truth of the statements in your columns for years. If we have the cheapest iron ores and fluxes and fuels assembled by nature in a juxtaposition unequalled elsewhere in the world, as we claim, then the less favored location will be shut up and stay shut up, while our industries will at least live, if not prosper, during the trouble. This time will come. All above middle age have seen such periods, and most of us have felt them. The wise man or the wise town is that which so shapes its ends and arranges its products that the lightest portion of the troubles of financial panics shall be theirs.

But is it true that Virginia has the advantages we claim, and that the portion of it around Buena Vista, Saverlake, Cornwall, Glasgow, Clifton Forge, Iron Gate, Covington *et id genus omne* now bidding for popular favor possesses the mineral and industrial advantages we boast of? We cannot rely on assertions; we must prove our problem and add the triumphant Q. E. D. to the end of our demonstration.

As to iron ores of the grade which makes nine tenths of the pig iron of the world, we can safely rest upon our demonstrated evidence. Of their existence and quantity there is no doubt. But this is not all; we want better mining and more educated miners, from the mining engineer to the man who twists the drill. We want ores, now mined and put to grass at \$2 a ton, for \$1 or less. It can be done by economy, knowledge and the application of them by the utilization of the appliances of electrical science to all mine uses, the progress in which is a far grander record than that of lighting or the conveyance of sound and speech by the same power. It cheapens mining in pumping, hoisting, traction, drilling, exploding, in all ways, full 50 per cent. where intelligently applied. We claim an \$8 pig; with enlightened intelligence a \$5 pig is not only possible, but should be made.

To steels these are the absolute requirements of the present, and far more of the future. Can we make them? A piece of "black plate" (sheet steel), 30-wire gauge, made by the Henderson process, in Alabama, from a pig containing 0.7 phosphorus, lies on my desk

as I write, side by side with another piece of Welsh black plate. It shows equal ductility, and, apparently, strength. All around us are ores containing 0.19 to 0.20 phosphorus, and with pig and ore of this character, and the Siemens-Martin, Henderson or Bessemer processes, to say nothing of basic method, who shall deny our ability to compete with the world's steel?

In the same hill, and adjoining the ores, are fire-clays, which, first tested in nearly every works in the United States, are now to be made into a brick which is equal in refractory qualities to Dinas and other celebrated makes of England.

Tin ores—are they real, and are they abundant? Their reality is proven by the thousands of samples which have been submitted to chemists here and abroad, and which show a metallic contents richer than any similar ores elsewhere. Abundance can alone be proven by work, and continuance by development. Unless, however, all nature lies, in this region, and man generally beats her in this line—unless geology "is a failure" and mineralogy "played out," then this Blue Ridge mountain range, from Clark county, West Virginia, to North Carolina, contains tin stone enough to support as large a population in its development as is now engaged in the entire magnificent iron development of the South! Time will show. An eminent geologist told me at the beginning of the Pennsylvania oil fever, "it is quite impossible, you know, for any commercial supply of petroleum to exist in Pennsylvania. It is a geological impossibility." That geological paradox made the Standard Oil Co.!

The precious metals—have we them? Well, thus far deponent testifieth: From Rockbridge hills with his own hands he took, from a vein not less than 8 feet wide, ore which, analyzed by a careful chemist of repute here and abroad, yielded, first, 14½ ounces gold to the ton, which, at \$20 per ounce, is a money value of \$290; silver, 27 ounces, value \$27; arsenic, 52 per cent. or \$25, and with it, and to be mined as part of the vein, tin to 47 per cent. metallic tin, 940 pounds at 25 cents per pound, or \$235 per ton, a grand total of \$577 per ton, and this vein is not confined to one locality. Two years ago some one found, or thought he did, silver ore on Buena Vista estate which assayed \$8,000 to the ton. Whether it came from the Buena Vista estate or not, it is a Blue Ridge product, and from this vicinity, and in time the rest of it will be seen. With glass sand 98 per cent. silica, with all the clays, kaolins and feldspathic minerals required for the ceramic art, we can prove our values. With timber of every variety, with bark and sumac, with the thousand and one products of a mountain country, we can make each title clear. Grant this, and what, when joined, as it all is, to a cheap and excellent fuel, and located near to transportation to consuming markets, can prevent the establishment of industrial cities where thousands and ten thousands of contented and well-paid skilled laborers shall benefit this mineral wealth. As I have before said, it is not speculation—it is enterprise and the necessity of the present that compels the development of these resources, and which, in doing it, makes and must make prosperous industrial cities of a former agricultural and pastoral region. If England or Wales had our chances, they would not seek foreign capital, but would in a season be the strongest protectionist "the Pennsylvania idea" could imagine. And so Savernake claims its right to a front place in the industrial ranks, and seeks workers only.

If you are not already a subscriber to the MANUFACTURERS' RECORD, send us \$4 and you will receive it regularly for one year or six months for \$2.00.

GENERAL NOTES.

"SOUVENIR OF MIDDLESBOROUGH, OCTOBER, 1890," is the modest name that appears on the cover of the most finely illustrated descriptive publication ever issued by an American town company. The brief note accompanying it speaks of it as an album. It is not only that, but something more, for the pictures portray the splendid architecture of the new edifices that are rising in the business and residence quarters of Middlesborough, the iron furnaces, the coal and iron mines that are to supply its industrial establishments with their materials, the hotels that will entertain the ever increasing army of visitors, the churches where its people worship, the banks in which they already make their deposits, the sanitarium where the sick and weary will regain health and strength, and surrounding all, and from many points of view, the superb mountain scenery of Cumberland Gap and of the lovely plateau in which Middlesborough is located. This album will be mailed free to all applicants, and whoever has heretofore read of Middlesborough's rise and progress with doubt because of the marvelousness of the story will find in these pictured pages incontrovertible evidence that nothing has been overstated. Copies of this souvenir may be obtained by addressing the Middlesborough Town Co., Middlesborough, Ky.

HOUSTON, TEXAS, has outgrown its corporate limits, while the prosperity of the city steadily advances, and with it the demand for residence property. So busy have its citizens been with their trades and industries that they have neglected to provide themselves with what every considerable place should have—one or more public parks to serve as pleasure grounds and breathing places for the people. That need is now so apparent that a number of public-spirited citizens have secured a large tract (8,200 acres) of land impinging on the city, on which they propose to lay out a splendid park, to be surrounded by residence blocks with broad intersecting streets, thus supplying an abundance of sites for homes, with a park adapted to the public needs. Within a month these gentlemen will have perfected and be ready to announce their plans.

THE list of officers and directors of the East Suffolk Land Co., of Suffolk, Va., comprises many of the best known and most solid men of Baltimore. As soon as it was announced that gentlemen of their high financial standing and thorough conservatism had organized this company, with a capital stock of \$300,000, there was a quick rush for it by Baltimoreans, and in a single day \$75,000 was subscribed, directly after which the entire balance open for subscription was taken in a single block. This company will sell at public auction next month 500 business and residence lots, particulars of which sale may be seen in an advertisement in this issue.

SHENDUN, VA., claims to be the first new town in the South to have a street railway in operation before any lots are offered for sale, the Grottoes Co., which is building the town, having recently completed a line three miles in length, which gives access to the Shenandoah Valley Railway station from all parts of the town.

AUSTIN, TEXAS, is rejoicing over the initial step taken for the construction of a dam across the Colorado river and the building of a complete system of water and electric-light works. In the awarding of contract for the work on the dam, the successful bidder is Bernard Corrigan, of Kansas City, who secured the contract at \$501,150. The city issues \$1,400,000 of bonds to pay for the project, and of this \$400,000 have been sold to local parties. The terms of the contract require work to commence within 15 days.

A Remarkable Forecast of the Iron Trade.

[From The Ironmonger, London, Eng.]

Mr. Edward Atkinson, of Boston, Mass., the well-known political economist and statistician, has just contributed an article to the MANUFACTURERS' RECORD, Baltimore, which is likely to attract a great deal of attention. The article has been written and published specially in connection with the visit of the members of the Iron and Steel Institute to the Southern States, so that the visitors ought to have the means of determining the value of the statements made while they are on the spot. Mr. Atkinson's interesting article is much too long to be reproduced by us in full, but his forecast is so striking that we offer no excuse for making some excerpts from it. He says, *inter alia*, he believes that the world's consumption of iron and steel, which is now increasing so rapidly, will for the next ten years fully tax the productive powers of all the iron-making countries to keep up with it, and hence that while there may be fluctuations, prices on the whole must steadily tend upwards throughout the world. Basing his estimate on careful calculations made by himself, by Hon. Abram S. Hewitt and others, he holds that the present world's production of 28,000,000 net tons of pig iron, of which the United States will make during 1890 about 10,000,000 tons, must within the next ten years, or in 1900, be increased to not less than 44,000,000 tons, even at the lowest possible rate of increase, based on the rate of growth that has continued from 1856 up to the present time, while the rate of increase of late years, during which the demand for iron has so broadened, would show that the world will need and must have not less than 56,000,000 tons in 1900. These calculations are based on the normal rate of growth for the last fifty years, and do not take into consideration the possibility, and, in fact, the almost certainty of a greatly increased demand by reason of the opening up of Africa and Asia. On this point Mr. Atkinson says: "Great continents are now being developed by the railway, and the construction of the railway leads to a continuous demand for iron and coal for use in other purposes. We may not attempt to forecast the increasing demand for iron which would ensue from the construction of the Trans-Siberian Railway, or of the railways which will soon open Southeastern Europe and Western Asia, or of the railways which may parallel the Euphrates. We need not now consider what would ensue when China begins to build railways, because China contains within its own borders iron and coal in abundance. We may not compute the demands of the great continent of Africa, which is now sure to be opened in every direction by the railway. Let us limit our own consideration for the moment to the development of the continents of North and South America, especially the latter."

This enormous increase in the demand for iron and steel will, Mr. Atkinson claims, require the utmost effort of production at every point where the raw materials can be assembled at reasonable cost, and where furnaces can be operated to advantage either upon the European or North American continent.

It is in the Southern States, however, that Mr. Atkinson believes the world's iron and steel production will center, and he gives data in support of that view. He agrees with Mr. Hewitt in saying that there are vast bodies of Bessemer iron ores in the South, and that there are points in that section where Bessemer pig iron can be made at not over \$10 a ton. Col. George B. Cowlam, of Knoxville, Tenn., states that there are practically unlimited supplies of Bessemer ores there running up to 69 per cent. metallic iron, and as low as 0.003 to 0.008, and none running above 0.025 of phosphorus, with abundance of good coking coal almost alongside. Mr. Atkinson is a free-trader, and clearly perceives the mischievous effects of the present protectionist policy.

The Great Southwest Region of Virginia.

The rapid development of this beautiful section of Virginia is a source of gratification and encouragement to all other portions of the commonwealth. The beautiful and flourishing cities which have sprung up as if by magic, from Bedford City out to the Tennessee line along the route of the Norfolk & Western Railroad and its great branch lines, exhibit a wonderful spectacle of thrift, progressiveness and energy. For this great awakening much is due to the splendid management of the Norfolk & Western Railroad in the influence it has exerted to bring capital into Virginia to develop the untold mineral wealth of the country through which the road runs, and as a consequence to build up cities great and small.

Commenting on this remarkable development the Petersburg Index-Appeal, in its yesterday's issue, has a most excellent article. It calls attention to the fact that the people once aroused to a consciousness of the wealth which nature has lavished on them, and to the grand possibilities of their section, speedily proved themselves no laggards in the race for material progress and prosperity. They proclaimed their advantages far and near, and invited immigration and capital to exploit the yield that lay almost upon the surface of the earth. Both came in a steady stream and found employment profitable beyond their most sanguine expectations. Cities sprang up in a night, and grew in lustiness with the day. Industrial enterprises dotted the hillsides and valleys, and the busy hum of machinery broke the solitude that had so long reigned in Appalachia. Land owners suffering with proverbial land-poverty suddenly found themselves rich without an effort, and speculators, buying on the top of a rising market, made fortunes by the retardless and never-ceasing advance in values.

As the storehouse of exhaustless mineral resources, its uninterrupted prosperity, asserts the Index-Appeal, is assured indefinitely. The supply of coal and hematites and fossil ores in close proximity to each other, and the easy access which the section has to magnetites so low in phosphorus as to be adapted to the manufacture of Bessemer steel, foreordain the Southwest as a formidable rival of Pennsylvania in the near future. Besides these, the largest zinc works in the South are in the Southwest at Pulaski, and the largest lead works in the South are in Wythe county. Copper and manganese are found in abundance, and we greatly mistake the enterprise of the age if the new tariff does not give an impulse to the mining of tin to be found all through those mountains.

But the wealth of the Southwest, very truly remarks our esteemed Petersburg contemporary, is not restricted to her mineral resources; nor have we in the foregoing enumerated one-half of these minerals. Blue grass is indigenous to this section, and the vast areas of superior grazing lands afford a source of wealth in cattle-raising no less inexhaustible than her mineral resources, and not second to them in value. To the industrious and thrifty man with a little capital here is a fortune in the natural increase of stock if managed with discretion and energy. Every new city and every new furnace in the Southwest adds to the profits of farming and stock-raising in that section, and to this is the further possibility that every man's farm may hold a fortune for him beneath its surface.

The pen sketch of the Index-Appeal is not exaggerated. It is true in every particular. To the people of Norfolk, the development of the Southwest is a source of intense satisfaction, for aside from the ties of friendship which bind them strongly together, they recognize that the growth and prosperity of Southwest Virginia must tend to the growth and development of Virginia's great seaport.—Norfolk Virginian.

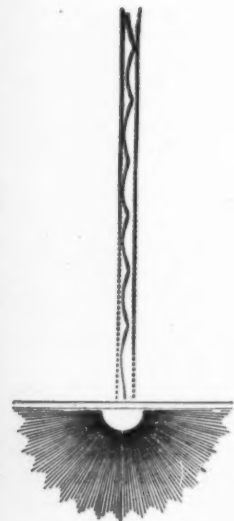
A GREAT STEEL PLANT.

Contracts have been closed by the Tredegar Steel Co. for the building of a great steel plant, to include three furnaces, rolling mills, etc., to produce 300 tons of steel daily, and to manufacture it into finished steel ready for the market. The contract includes buildings, machinery, etc., and work will be commenced just as soon as contractors can get their working tools and machinery from New York.

OVER 3,000 HANDS

three fourths of whom will be skilled laborers will be employed in these works.

This is the greatest plant ever established in the South, and alone will build a town of 12,000 to 15,000 people, but added to this will be many other industries now under negotiation.



TREDEGAR, ALA.

Why Remain in a Dead Town

Or in a section where the future has little of promise, when Tredegar offers to every enterprising man the chance to accumulate a fortune in almost any line of industry?

There are openings here that give assurance of large profits, for the establishment of any enterprise based on iron, manganese, cotton, timber, &c. With an abundance of the highest grade of iron ore, owned by the company, within a mile of the center of the town, with the most extensive manganese deposits ever found in the United States with timber for charcoal at a nominal price there is every reason for iron making being more profitable here than at any other point in the South. Investigation on this point is requested.

A more desirable place for cotton manufacturing cannot be found. The raw cotton can be bought at the door of the mills, and the supply of absolutely pure freestone water is practically unlimited. A cotton-seed oil mill is now being built to utilize the seed that have heretofore been shipped over a hundred miles to a market.

Brick-yards, planing mills, sash and door factories, furniture factories and a wide range of other industries can be established here with the assurance of good profits. House builders and contractors are needed.

For particulars address

GOLDSMITH BERNARD WEST, GENERAL MANAGER
Jacksonville Mining & Manufacturing Co.,

TREDEGAR, Calhoun County, Ala.

(Present Postoffice, Jacksonville, Ala.)



Tredegar offers the most inviting field in the United States for the establishment of manufacturing enterprises.

It has Unequalled Advantages for

Iron and Steel Works, such as Furnaces, Rolling Mills, Machine Shops, Foundries and everything using iron.

Car-Wheel Works, Car Shops.

Cotton Mills, Knitting Factories, and other Textile Industries.

Cotton-Seed Oil Mills and Fertilizer Factories.

Woodworking Industries of every sort, Saw and Planing Mills, Sash, Door and Blind Factories, Furniture Factories, Handle and Spoke Factories, Agricultural Implement Works, Carriage and Wagon Factories, &c.

Brick Works for making Building Brick, Vitrified Brick, Fire Brick, &c.

Sewer Pipe Works.

And many other industries.

The most liberal inducements will be offered to those who desire to locate such industries.

*The Best Location in the Country
for New Enterprises.*

TREDEGAR, ALA.

Here Are Found :

The finest Hematite Iron Ores in the South.

Extensive Manganese Deposits that experts from Pennsylvania and elsewhere believe to be the greatest in the United States.

Vast Forests of Fine Timber, Pine and many varieties of Hardwoods.

Never-failing Mountain Springs with a daily flow of many million gallons of the purest Freestone water, besides Sulphur, Chalybeate and other Mineral Springs.

A climate that has no superior for all the year; malaria is unknown, and the nights are cool even in midsummer.

A Fertile Agricultural Country, where cotton, grains, grasses, fruits and vegetables yield abundant crops, and where fine Jerseys wade knee-deep in clover.

A population of 3,000, churches of all denominations, excellent schools, charming society.

A National Bank, Water Works, Fine Hotel, &c.

Steel Works, to include Furnaces, Rolling Mill, Rail Mill, Cotton Tie Mill, &c., and to employ 3,100 hands, under construction.

A Cotton-Seed Oil Mill and Fertilizer Factory under construction.

For particulars address GOLDSMITH B. WEST, General Manager JACKSONVILLE MINING & MANUFACTURING COMPANY, Tredegar (Present Postoffice, Jacksonville), Alabama.

*An Unequalled Field for
Profitable Investment.*

LAREDO, TEXAS.

The Gateway to and from the Republic of Mexico

Is nature's grand outlet for the manufactured products of the United States and nature's grand inlet for the mineral and raw products of Mexico. For the cheap delivery of the raw material necessary for the successful operation of iron and all textile industries, Laredo holds a position unsurpassed, every material being found in the immediate neighborhood. The very foundations of the city are upon inexhaustible coal beds, now being rapidly developed. A glance at the map will show that there are no large cities within hundreds of miles of Laredo, and her favorable geographical location, being from 600 to 800 miles nearer the trade centers of both republics than any other frontier port, stamps her as the commercial entrepot between the United States and Mexico.

Laredo is becoming a most important manufacturing point,

having the following industries already located and in operation:

Woolen Mill.
Wool Scouring Mill.
Tannery.
Boot and Shoe Factory.
Ore Concentrating Works.
Ore Sampling Works.
Cotton Gin and Milling Works.
Mineral Water Bottling Works.
Four Ice Factories.
General Car and Machine Shops of the Mexican National Railroad, the largest west of the Mississippi.
Three Large Brick-yards and several smaller establishments.
A large Cotton Factory is now being erected by a New England syndicate.

Laredo Offers to the Capitalist, Merchant, Manufacturer and Mechanic Opportunities for Investment, Business or Manufacturing such as no other City in the Southwest can offer.

The city is well supplied with railroad facilities and hotel accommodations, has Holly system of water works, two electric-light companies and one of the best equipped electric motor street railways in the United States.

Population.		Imports and Exports.
1886.....	3,000	
1888.....	6,000	1888.....\$ 3,000,000
1889.....	12,000	1889..... 10,543,000

For Maps, Pamphlets, Bird's Eye Views and Reliable Information of Laredo, address

THE LAREDO IMPROVEMENT CO.

KIMBALL.

MARION COUNTY,

TENNESSEE.

KIMBALL TOWN COMPANY.

H. I. KIMBALL,
Vice-Prest. & Managing Director.
DIRECTORS.

HON. LOGAN H. ROOTS, President of First National Bank, Little Rock.
 CHARLES P. RICHARDSON, Capitalist, Chattanooga.
 J. R. STEVENS, President First National Bank, Huntsville, Ala.
 A. J. MORISON, Capitalist, London, England.
 J. H. BRYANT, President Seattle Coal & Iron Co., New York.
 GEO. COOK, President Hallet & Davis Piano Co., Boston, Mass.

HON. H. L. COCHRAN, Judge Probate Court, Fort Payne, Ala.
 H. I. KIMBALL, Atlanta, Ga.

OFFICERS.

President, HON. LOGAN H. ROOTS.
 Vice-President, C. P. RICHARDSON.
 Second Vice-President and Managing Director, H. I. KIMBALL.
 Treasurer, J. H. BRYANT.
 Assistant Treasurer, ED. E. RICHARDSON.
 Secretary W. E. DONALDSON.
 Assistant Secretary, W. BROOKS COVELL.

ATTORNEYS.

W. E. DONALDSON, Kimball.
 SHEPHERD, WATKINS & BATES, Chattanooga.

ENGINEERS.

Landscape Engineer, NATHAN G. BARRET.
 Resident Engineer, W. J. KELLY.
 Sewerage and Electrical Engineers, MIER, HARTFORD & MITCHELL.

Hon. SAM'L H. BUCK, Gen. Superintendent.

OFFICES.

Richardson Building, Chattanooga.
 Union Trust Building, 50 Broadway, New York.
 Company's Building, Kimball, Tenn.

Kimball Offers

Solid, practical inducements to manufacturers. First-class enterprises under good management will be guaranteed, one-half the cash required. Local taxes will be remitted for a term of years. Lowest freights and cheapest raw materials will be secured.

Auxiliary Companies

will be organized by the parent corporation for developing the wealth of the Sequachee Valley and for supplying the city with heat, light, water, power and transportation.

A Mammoth Industrial Building

will be erected by the Kimball Town Company, which will have power, light and heat, that will be supplied to manufacturers on the most liberal terms.

Ample provision made for religious and educational institutions.

No Further Auction Sales

this year and no private sales of the corporation's lots except to those who will contract to build immediately on plans approved by the management.

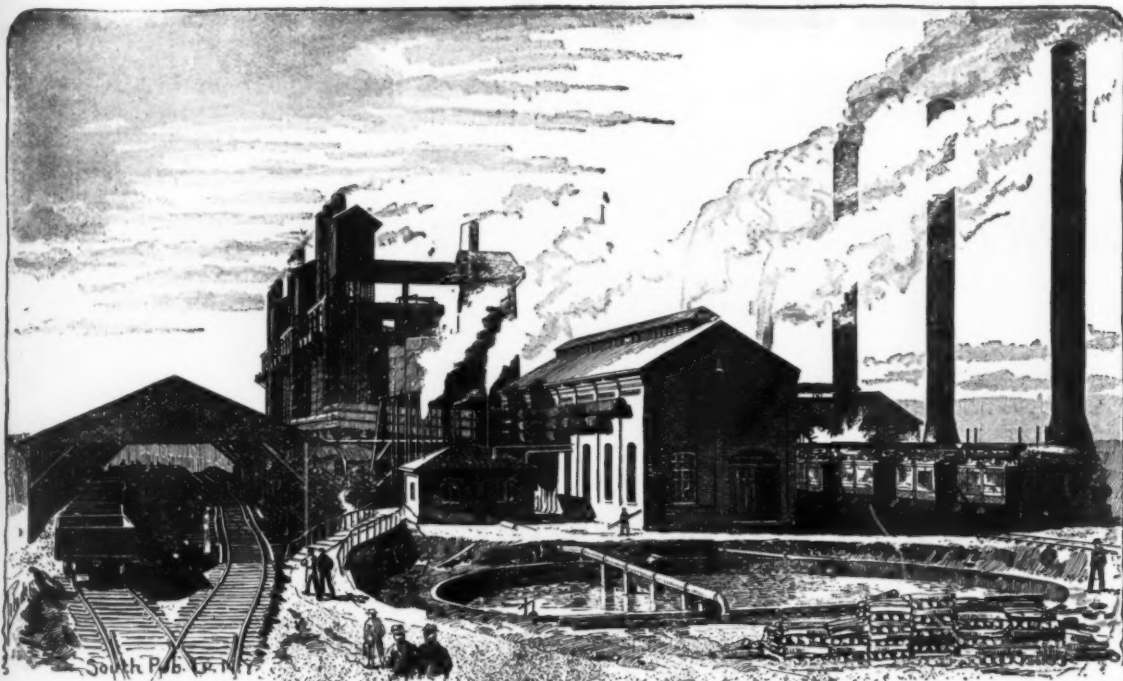
ALL CORRESPONDENCE SHOULD BE ADDRESSED TO

H. I. KIMBALL, Managing Director,

CHATTANOOGA, TENN.

SHEFFIELD, ALA.

THE SUPREME.



At the Headwaters of Deep Navigation on the Tennessee River, the Hudson of the South.

The Largest Producer of HIGH-GRADE Pig Iron of any City in the Entire Industrial South.

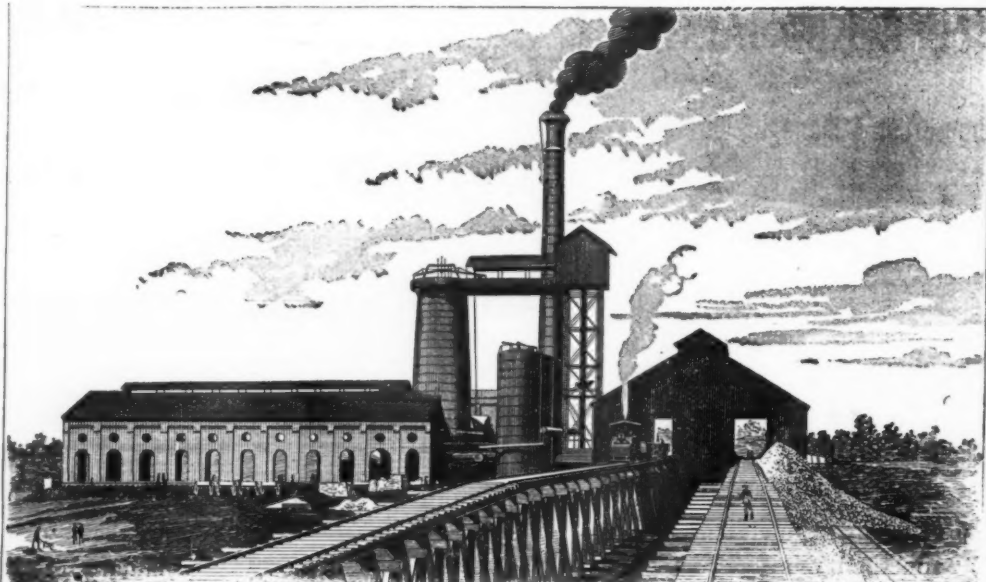
The only point in the South that has or can ship pig iron to the cities on the Mississippi, Missouri and Ohio rivers by boat or barge without rehandling. This last shipment of 5,000 tons of Pig Iron to Pittsburgh, Pa., by barge was made at a saving of \$2.65 per ton over what any iron-producing city of the South has done or can do to-day.

Five Large Blast Furnaces

Capacity 750 tons pig iron per day.

The following are among the corporate and private enterprises that belong to Sheffield:

The Sheffield Land, Iron & Coal Co., capital \$1,000,000.
 The Sheffield & Birmingham Coal, Iron & Railroad Co., capital \$1,000,000; the owners of three 150-ton blast furnaces.
 The Birm., Sheffield & Tenn. River Railway Co., capital \$5,000,000.
 The Hattie Ensley Furnace, capital \$300,000.
 The Lady Ensley Furnace Co., capital \$300,000.
 The Electric Light & Gas Fuel Works, \$50,000.
 The Sheffield Ice Co., capital \$25,000.
 The Sheffield Manufacturing & Constructing Co., \$30,000.
 The Sheffield Contracting Co., \$60,000.
 The Eureka Brick & Lumber Co., \$30,000.
 The Howard Brick Co.
 The Sheffield Bakery & Bottling Works.
 The Sheffield Mineral Paint Co., capital \$50,000.
 The Sheffield Agricultural Works, capital \$40,000.
 The Sheffield Cotton Compress Co., \$60,000.
 Millan Brothers, Steam Laundry.
 Enterprise Publishing Co.
 Water Works, already expended, \$30,000.
 Sheffield Street Railway Co., capital \$100,000.
 Cleveland Hotel Co., capital \$50,000.
 Sheffield Hotel Co., capital \$120,000.
 Bank of Commerce, capital \$150,000.
 East Sheffield Land Co., capital \$500,000.
 Hull & Keller's Fern Quarries.
 Mobile Real Estate Co., capital \$50,000.
 Sheffield Real Estate Co., capital \$50,000.
 Sheffield & Mobile Improvement Co., capital \$100,000.
 Sheffield Stove Works.
 Henderson Milling Co., capital \$100,000.
 Globe Iron & Brass Works, capital \$10,000.
 Standard Machine Shop & Foundry, capital \$50,000.
 Owen Pink Mixture Co., capital \$100,000.
 Bell Telephone & Telegraph Co.
 Foulds' Shoe Factory, capital \$20,000.
 Enterprise Wood Working Co., capital \$30,000.
 Buchanan Straw Goods Factory, \$25,000.
 The Sheffield Harness & Saddlery Co., capital \$20,000.
 Principal Shops of the Sheffield & Birmingham Railroad.
 Principal Shops Memphis & Charleston Railroad, now being built.



Aside from the foregoing the following are in course of construction and may be considered positive: Principal Shops of the Memphis & Charleston Railroad; Principal shops of the Nashville, Florence & Sheffield Division of the Louisville & Nashville Railroad. Reasonably certain to be secured in the near future are the following, in regard to which negotiations are pending: A Rolling Mill; Large Machine Shop; A Cotton Mill.

ALABAMA'S IRON CITY.

The Suburb Location at the head of navigation on the Tennessee River, commanding the outlet to immense fields of IRON ORE and COAL and magnificent tracts of the finest Timber. Has already attracted to the spot where three years ago in a cotton field her projectors set the stakes of a new city, capital and people, unequalled in amount and number, circumstances considered, by any of the so-called new cities of the South.

With eight Church Organizations, two Free Public Schools, Postoffice, Telegraph and Express offices and abundant facilities of transportation by river and rail. It has every advantage as a residence city that can be desired.

Good Water; Drainage Excellent; Health and Climate Unsurpassed. Free Public Schools and Churches. Splendid opening for men of push and energy. No better point for profitable investment. No "Old Foggy" element here.

Sites for Manufacturing Enterprises

And for Free Public Schools and Churches

Donated by the Sheffield Land, Iron & Coal Company.

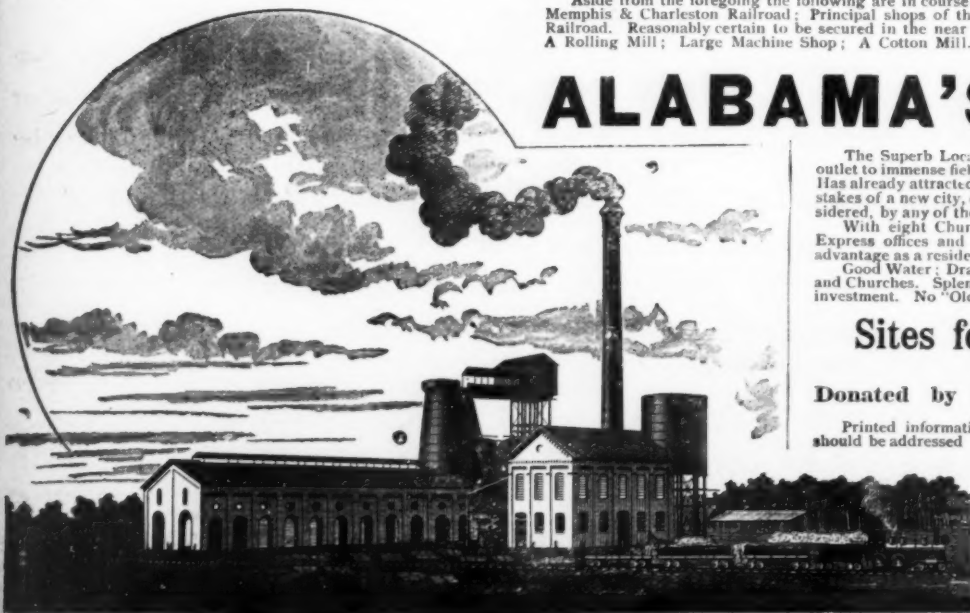
Printed information furnished on request. Correspondence solicited. Communications should be addressed

W. L. CHAMBERS,

Vice-President and Manager.

Sheffield Land, Iron & Coal Company,

SHEFFIELD, ALABAMA



The Staunton Development Co.

OF STAUNTON, VIRGINIA.

Authorized Capital \$2,000,000.

Shares \$100 par value each.

OFFICERS

M. ERSKINE MILLER, President, Staunton, Va.

S. M. YOST, Vice-President, Staunton, Va.

W. P. TAMS, Treasurer, Staunton, Va.

W. J. PERRY, Secretary, Staunton, Va.

DIRECTORS.

ISAAC WITZ, Staunton, Va.

B. F. EAKLE, Staunton, Va.

JOHN McQUAIDE, Staunton, Va.

ANDREW BOWLING, Staunton, Va.

S. M. YOST, Staunton, Va.

JED HOTCHKISS, Staunton, Va.

J. H. WAYT, Staunton, Va.

M. ERSKINE MILLER, Staunton, Va.

O. K. LAPHAM, Chicago, Ill.

H. H. FAY, Capitalist, 28 State Street,
Boston, Mass.

W. L. FLEMING, Richmond, Va.

GEORGE H. HULL, President American
Pig Iron Storage Warrant Company, 44
Wall Street, New York.

STAUNTON, VIRGINIA.

The Queen City of the Valley of Virginia.
Present Population 12,000.

Situated in Augusta county at the crossing of the Baltimore & Ohio and Chesapeake & Ohio railroads and accessible to the great coal and coke fields, namely: Connellsville, by the Baltimore & Ohio; Pocahontas or Flat Top by the Norfolk & Western and Chesapeake & Ohio, and New River Coke Fields by the Chesapeake & Ohio.

PROPERTY.

The lands acquired, aggregating 2,242 acres, more or less, are favorably situated within the city limits and adjoining the corporation lines, and it might be fairly said that about 240 acres are situated within the city of Staunton. The great bulk of the property lies between the Valley Railroad or Baltimore & Ohio Railroad and the Chesapeake & Ohio Railway, and is most admirably situated for railroad switches and side tracks to reach manufacturing enterprises. Several streams of good water run through the lands, affording abundant water supply for factories and fine drainage.

CAPITAL STOCK.

The authorized capital is two million dollars. One million, two hundred thousand dollars of stock will now be issued,

of which \$204,800 has been disposed of, leaving \$800,000 of stock in the treasury, to be hereafter issued, if it should be deemed wise to do so.

Subscribers will bear in mind that with every two shares of stock they will be entitled to either a business or residence lot, to be determined by a drawing at a date to be hereafter designated.

BOOKS OF SUBSCRIPTION NOW OPEN.

Staunton is within six hours' ride from Washington, seven of Baltimore, nine of Philadelphia and eleven of New York.

It has an excellent system of water works, paid fire department, electric light and gas companies, ice factory, street car line under construction, four newspapers, handsome opera house, commercial college and other important industries that contribute to the welfare of the city.

FOR SUCH INDUSTRIES AS

COTTON MILLS,
WOOLEN MILLS,
TANNERIES,
BOOT AND SHOE FACTORIES,
HARNESS AND SADDLE FACTORIES,
FURNITURE FACTORIES,
CARRIAGE AND WAGON FACTORIES,
FLOUR MILLS,
GRIST MILLS,
CRACKER FACTORIES,
CANNING FACTORIES,
COTTON-SEED OIL MILLS,

DALLAS, TEX.

Is equal to any locality
in America in its
combined advantages of
CHEAP AND
ABUNDANT
RAW MATERIAL
READY,
PROFITABLE
AND EXPANDING
MARKET.
DISTRIBUTING FACILITIES,
ELIGIBLE SITES,
GOOD CLIMATE.

Any worthy industries
will be aided liberally by the

DALLAS MANUFACTURERS' AID & IMPROVEMENT CO.

711 Main Street, Dallas, Texas.

BEDFORD CITY LAND & IMPROVEMENT CO.

BEDFORD CITY, ^{LAT} LIBERTY, VA.

By special act of the Legislature of Virginia the Bedford City Land & Improvement Company was chartered with the most liberal grants of power. The company has been fully organized.

AUTHORIZED CAPITAL - - - - \$1,000,000.

JAS. M. BERRY, (of Berry Bros., Tobaccoists,) President.
R. B. CLAYTOR, (of R. B. Claytor & Co., Merchants) Vice-President.
J. LAWRENCE CAMPBELL, (of Burks & Campbell, Attorneys-at-Law,) Secretary.
S. M. BOLLING, (of Bolling, Wright & Co., Tobaccoists,) Treasurer.

BOARD OF DIRECTORS:

MARTIN P. BURKS ,	R. B. CLAYTOR ,	J. M. BERRY ,
C. W. WHARTON ,	J. LAWRENCE CAMPBELL ,	T. D. BERRY ,
S. M. BOLLING ,	SAMUEL GRIFFIN ,	W. W. BERRY ,
DR. W. W. SMITH , President of Randolph-Macon College,		
REV. A. E. DICKINSON , D. D., Editor of the Religious Herald, Richmond, Va.		

The Company is solvent and its business is conducted on the soundest business principles. It is not engaged in wild booming.

Only \$300,000 worth of stock has been offered to the public.

The Company owns nearly 800 acres, containing the best residence, business and manufacturing sites. The stock which is offered is in ten-dollar shares, payable \$5 per share cash when subscribed, \$1 each thirty days thereafter, until \$5 is paid on the share. For this the Company issues paid up non-assessable certificates of stock. The money thus raised is to be applied to the improvement of the property.

Bedford City is not an old field, but a thrifty, growing community, in the most healthful and beautiful mountain region in Virginia.

Mean yearly temperature 53.7; Winter, 44; Summer, 78.

A few miles from the peaks of Otter, it would be difficult to exaggerate the exquisite beauty of the scenery and the tonic quality of the atmosphere. Within a days ride of Boston, New York, Philadelphia, and a few hours from Baltimore, it presents unusual advantages for health seekers.

The present population is nearly 4,000. There are 30 manufacturing enterprises, large and small, in operation, and 10 new secured with capital provided, which go into work as soon as buildings can be put up and the plants erected.

On the Company's lands are the elegant Randolph-Macon Academy, the largest school for boys in the South, and the Jeter Memorial Institute for young ladies, which will be commenced within six months. The Norfolk & Western R. R. Co. will build a fine passenger depot near a first-class hotel, to cost \$75,000. Poindexter, the architect of the Academy, is now preparing plans.

The Bedford City Company offers the most beautiful residence sites in the western part of the town, in which direction it is rapidly building.

This is the safest and best investment offered anywhere in Virginia. It is a golden opportunity to get property in a splendid section, as rich in minerals as it is healthful and magnificent in the grandeur of its mountains.

A new railroad from Glasgow to Atlanta will be built. Its construction will begin this year. For further particulars address

J. M. BERRY, President of Bedford City Land & Improvement Co., Bedford City, Va

* LURAY, * Virginia. *

2,500 Acres Town Lands,

8,000 Acres Mineral Lands,

Luray Inn and Caverns.

The Valley Land & Improvement Company,

Capital Stock, \$2,000,000.

Luray, Page County, Va.

DIRECTORS.

D. F. KAGEY, Luray, Va., President.

G. C. MARSHALL, Uniontown, Pa., Vice-President and General Manager.

T. E. McCORKLE, Lexington, Va.

DR. W. L. HUDSON, Luray, Va.

G. K. MULLIN, Philadelphia, Pa.

DR. A. M. HENKEL, Staunton, Va.

J. W. MILLER, Mount Jackson, Va.

EXECUTIVE COMMITTEE.

D. F. KAGEY,

G. C. MARSHALL,

T. E. McCORKLE,

G. K. MULLIN.

Secretary, T. E. McCORKLE.

Treasurer, H. M. KERR, Kagey & Co.'s Bank.

Attorney, T. E. McCORKLE.

Associate Counsel, H. J. SMOOT,

Manager of Inn and Caverns, G. K. MULLIN.

Bankers, D. F. KAGEY & CO., Luray, Va.

CHARTER, PROPERTIES, &c.

The Valley Land & Improvement Company has been organized under the most liberal charter ever granted by the State of Virginia.

2,500 acres for manufacturing purposes and building sites. These lands are in and around the hotel, caverns and town of Luray on an undulating plateau, protected on either side by the Massanutten Mountain and the Blue Ridge Mountains.

8,000 acres of the best mineral properties in Virginia, consisting of iron, manganese and other valuable minerals which have stood the test of examination by the ablest geologists of the country.

The company owns the celebrated Luray Inn and the Luray Caverns.

Page County stands at the head of the list as having a greater variety of minerals and richer than any other county so far as known in the State.

In addition we have the finest kind and a great variety of virgin timber and fire-clays, slates, beautiful marbles, ochres, umber and mineral paints.

LOCATION, RAILROADS, &c.

Luray, now a town of about 2,500, is the county seat of Page county, has five churches, splendid schools, fine stores, three newspapers, flouring mill, cigar factory, &c.

The town is on the Shenandoah Valley Railroad, of the Norfolk & Western system, and is the best location in Virginia, four hours from tidewater.

Two new lines projected connecting closely with Baltimore and Washington and insuring cheap freights.

Luray has largest tannery in the world, annual pay roll over \$350,000.

Inexhaustible water supply, agricultural resources, charming climate.

Fine natural sites for furnaces and manufactories of all kinds fronting the railroad, reserved by the company, which by donations of land and in every possible way will promote Luray's manufacturing interests.

LOTS, CAPITAL STOCK, &c.

Capital stock \$2,000,000, shares \$100.

One million of stock reserved in treasury for betterment.

One million now offered for sale.

Books open at the bank of D. F. Kagey & Co., Luray, Va.

The company reserves the right to close the books any time before the full amount of the one million is sold.

Twenty per cent. must be paid on subscription, 20 per cent in 30 days, the balance equally in six and twelve months.

When half of the subscription is paid in subscribers have the right to use their stock in payment on lot purchases.

The company feels safe in saying that with the magnificent property in hand, the Inn and Caverns, it will be enabled when thoroughly under way to pay four or five per cent. dividend on the stock sold, independent of lots and mineral lands.

The company already owns an electric plant which will be considerably enlarged.

Complete system of water works and many other improvements projected. Investors are referred to Mr. J. W. Wheeler, Cashier Drivers and Mechanics' National Bank, Baltimore, Md., for full information. H. C. Turnbull, Jr., real estate agent, 52 Lexington street, will receive subscriptions of stock in Baltimore.

The fullest investigation invited.

THE VALLEY LAND & IMPROVEMENT COMPANY, LURAY, PAGE COUNTY, VA.

DENISON, TEXAS.

The Queen City of the Southwest

GATEWAY TO THE GREAT STATE OF TEXAS.

The City of Denison Presents the Finest Opportunity of any City in the Southwest for the Investment of Capital in Large or Small Sums.

DENISON is situated in Northeastern Texas near inexhaustible beds of Coal and Iron, surrounded by the finest Fruit Lands in the world, and adjoining the INDIAN TERRITORY, which, in the nature of things, must in a few years be opened to settlement.

The city is regularly and beautifully laid out. Railroads run from it in four different directions. The Missouri, Kansas & Texas alone does an enormous business, having 54 miles of switch track in Denison, employing 500 skilled workmen and disbursing \$150,000 a month in wages.

The Houston & Texas Central Railway has its northern terminus here. The Choctaw Coal & Railway Co. have recently completed a survey of a line from Hartshorn, I. T. (a junction point with the main line of their road) to this city. The Denison, Sherman & Dallas Railway is now being constructed from here to Sherman, and four other roads have located lines to this point, with very good prospects of building.

The first public school in the State was established here, and the city's elegant two and three-story brick school buildings, surrounded by attractive grounds, are well arranged for the use of the white and colored children. Its schools are in session ten months in each year. We have sixteen church societies, seven of which are colored.

The city is well supplied with pure water from its numerous private wells—dug in the ground—and its first-class system of water works. Rate of taxation low.

The city has six miles of street railway, and a seven-mile-motor railway; has an electric-light and gas company and a telephone plant. It has an influential New England colony, and counts among its citizens people from every State in the Union.

The erection of a large hotel to cost \$125,000, and a steel plant with \$2,000,000 capital is contemplated.

The population of the city by census of 1890 shows a gain of 170 per cent. in ten years.

35,000 bales of cotton were shipped from Denison in 1890, and many carloads of fruit and early vegetables are shipped annually.

The Denison Canning Co., capitalized at \$100,000, has one of the largest canning factories in the country.

The Denison Cotton Manufacturing Co.'s 25,000-spindle mill, to cost \$500,000 and to employ 650 hands, will be completed by January 1st, 1891.

The climate of Denison is magnificent, situated nearly 800 feet above sea level. In summer it is warm, but far cooler than many cities farther North, and from 6 P. M. until after sunrise it is always cool. The city is very healthy.

The capacity of the ice factory is now increased from a daily output of 30 to 50 tons.

The Denison Land & Investment Co. is prepared to give every reasonable encouragement to manufacturers, and solicit correspondence from such manufacturers as contemplate coming into the Southwest to locate.

Address all communications to

THE DENISON LAND & INVESTMENT CO.

Paid-Up Capital, \$1,200,000.

DENISON, TEXAS.

OFFICERS.

W. P. RICE, President.

MILTON H. FRENCH, Vice-President.

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ARTHUR L. BERRY, Secretary and Treasurer.

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J. M. FORD, Kansas City, Mo.

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Write to the * * * *

*The
Richest.*

*Best
Managed.*

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*Greatest
Resources.*

*Unequalled
Opportunities.*

* * * * Coal & Iron Co.

CARDIFF, ROANE CO., TENN.

Come to HAGERSTOWN,

THE MAGIC CITY OF MARYLAND.

❖ WHERE MONEY GROWS RAPIDLY. ❖

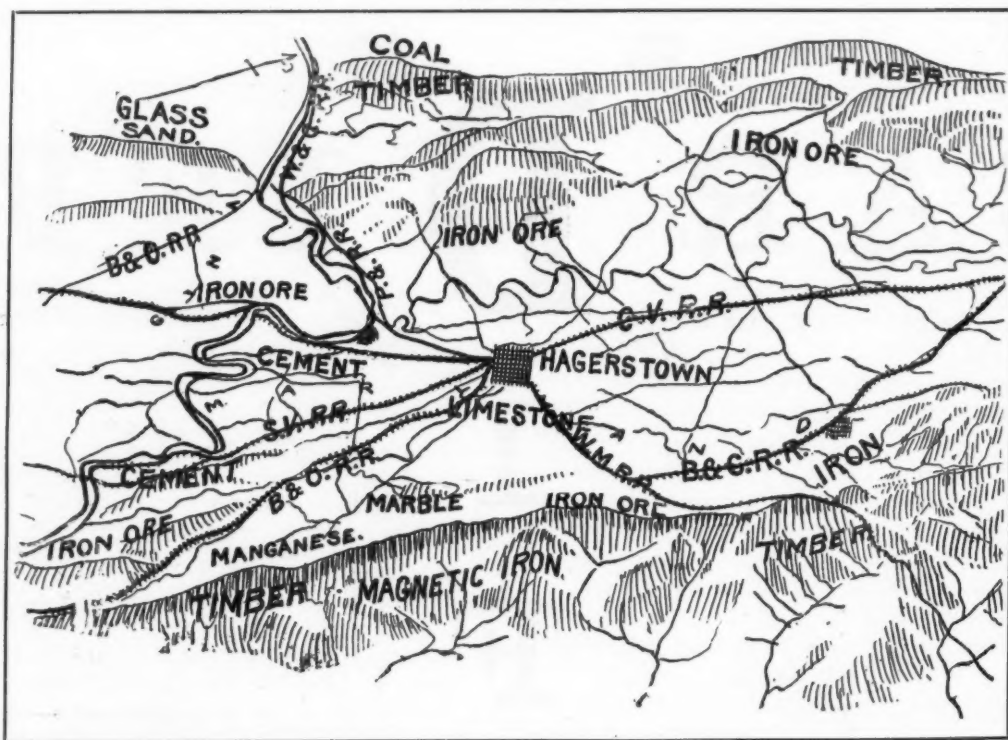
THE INTER-STATE METROPOLIS.

Population in 1884, 5,000.

Population in 1890, 11,000.

Her Growth Marvelous. Her Future Magnificent. 6 Railroads. Fifty Passenger Trains Daily (50.) Thirty-nine Mail Trains Daily (39). Unsurpassed for Manufacturing Facilities—95 already located, 6 in the last three months.

Its location commands the trade of Maryland, Virginia, West Virginia and Southern Pennsylvania. Substantial assistance given to manufacturers to locate here. Has magnificent Hotels, firm and well-graded Streets, Electric Lights, Pure Mountain Water and Free Postal Delivery.



This contour map shows the location and railroad facilities of Hagerstown, in the "Garden Spot" of the Cumberland Valley.

Hagerstown Man'g., Mining & Land Improvement Co.

WASHINGTON COUNTY, MD., REAL ESTATE DEALERS,

Own and Control about 1,000 Acres of Land adjoining the City Limits.

Capital Stock,	-	-	-	-	\$1,000,000
Remaining in Treasury,	-	-	-	-	575,000

OFFICERS.

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J. D. MAIN, Treasurer.	H. H. STRAUB, Acting Sec'y.

DIRECTORS.

CHAS. W. SEBOLD, President, and Manager of the Hagerstown Spoke and Bending Works.
 S. M. SCHINDEL, President and Manager of the United Silk Mfg. Co.
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 J. HANSON BEACHLEY, Wholesale and Retail Merchant.
 CORNELIUS L. KEEDY, Proprietor and President of Kee Mar College.
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 ALEX. R. HAGNER, Counsellor-at-Law and Attorney for Second National Bank.

The MIDDLESBOROUGH TOWN CO.

ALEX. A. ARTHUR, President.

JOHN B. CARY, Sec. and Treas.

THE MIDDLESBOROUGH, KY., SEMI-ANNUAL SALES BY

PUBLIC AUCTION,

WILL TAKE PLACE COMMENCING

MONDAY, NOVEMBER 10, 1890.

R. E. EDMONDSON, Auctioneer.

Statement of Development to September 1, 1890.

	Number.	Value.
Business houses erected and occupied.....	83	\$ 285,000
Business houses being erected.....	41	441,500
Business houses contracted for, to be completed by Jan. 1, 1891.	31	176,500
Residences erected and occupied.....	280	417,250
Residences being erected.....	97	228,450
Residences contracted for, to be completed by January 1, 1891.	72	161,450
Industrial plants in operation.....	16	289,500
Industrial plants building.....	27	2,872,500
Industrial plants contracted for.....	14	750,000
Hotels built and occupied.....	7	132,000
Hotels being erected (including Harrogate and Cumberland Gap).....	6	850,000
Hotels contracted for.....	3	45,000
Churches completed.....	5	22,500
Churches being erected.....	3	18,000

PUBLIC BUILDINGS.

Schoolhouse.....	3,500
Public library and exhibition hall.....	25,000
City hall.....	10,000

The above statement includes only cost of construction, and does not include working capital or value of properties or stock.

BANKS.

	Capital.	Deposits.
Coal & Iron Bank.....	\$1,000,000	\$430,000
First National Bank (to be increased to \$100,000).....	50,000	160,000
People's Bank.....	500,000	120,000
Bank of Middlesborough (to be increased to \$100,000)....	50,000	60,000
Bank of Cumberland Gap....	50,000	17,000
Bank of Claiborne.....	25,000	10,000
Total.....	\$1,675,000	\$797,000

POPULATION.

The population of Middlesborough was fifty souls in May, 1889. In August, 1890, about 6,200. Including the plants that are now completed and those that are in course of construction, which, by contract, are to be completed inside of fifteen months, Middlesborough will have a working population, composed of skilled and unskilled labor, of 7,688 men, which, according to all acknowledged rules, will give the city in eighteen months nearly 40,000 inhabitants.

NOTE.

Two years ago the nearest railroad was at Corbin, on the Louisville & Nashville System. To-day there are in Middlesborough the Louisville & Nashville, the Knoxville, Cumberland Gap & Louisville Railroads, the Belt Line and, by traffic arrangements, the Norfolk & Western and the East Tennessee, Virginia & Georgia Roads, with others building.

FOR CIRCULARS AND ALL OTHER INFORMATION ADDRESS

JOHN M. BROOKS, Resident Manager,

MIDDLESBOROUGH, KY.

SAVERNAKE,

Rockbridge County,

VIRGINIA.

✻ The Latest and Most Attractive Addition to Buena Vista. ✻

The Phenomenal Success of which New Industrial City has made Necessary Future Extensions on the same line of Valuable Minerals,

WITH UNRIVALLED FACILITIES FOR TRANSPORTATION.

SAVERNAKE adjoins Buena Vista on the southwest; fronts on Shenandoah Valley Railroad and on James River Division of the Chesapeake & Ohio Railway.

High Grade Manganese and Iron Ores to Steel and Iron Trades.

✻ **SAFETY AND PROFIT TO INVESTORS.** ✻

Healthy and Picturesque HOMES at Moderate Prices to Lot Buyers.

The Advantages of an Established City, with Churches, Schools and Factories adjoining. Employment for Mechanics and Laborers. Active Trade to the Storekeeper. Consuming Industries, with a Ready Market for product to the Manufacturer. Avenues connecting with those of Buena Vista, to Insure Convenient Access, through Street Car Lines, already Projected from that City.

SAVERNAKE

Is laid out in conveniently-sized lots to suit all in Prices and Location.

RESIDENCE LOTS. BUSINESS LOTS. MANUFACTURING SITES.

THE INDUSTRIES already secured, and which will be further announced weekly in the MANUFACTURERS' RECORD, guarantee rapid profits, free from speculative features, to all purchasers.

The LOCH LAIRD ESTATE & MINERAL CO., Limited,

LONDON, ENGLAND,

Of whose property Savernake forms a portion, having already sold a considerable number of lots to investors in London, and being in negotiation with both English and American capitalists for further sales, offer lots in Savernake to the American public, confident that their location will render values at once apparent, and guarantee every effort to sustain and foster this enterprise, both in the United States and England. Maps of Savernake and all particulars of information may be obtained upon application to the

Loch Laird Estate & Mineral Co., Limited,

THOMAS DUNLAP, MANAGING DIRECTOR.

Postoffice Address—Triford, Rockbridge Co., Va.

SAVERNAKE, VIRGINIA.

Railroad Station for both Shenandoah Valley Railroad and Chesapeake & Ohio Railway, Loch Laird Station, Va.

SAVERNAKE,

Rockbridge County,

Virginia.

THE PROPERTY OF THE

Loch Laird Estate & Mineral Co., Limited,

of which Savernake is a part, is in active development, having extremely rich and valuable deposits of

MANGANESE, IRON ORE,

*CEMENT ROCK, BROWN STONE, BRICK AND FIRE-CLAY,
BUILDING STONE, KAOLIN.*

Arrangements have been concluded, or are in course of negotiation with the following

INDUSTRIES:

Tin-Plate Works, product 3,500 boxes I. C. Tin-Plate weekly.
Ferro-Manganese Furnace.
Ornamental Brick and Tile Works.
Slate Brick Works—patented process.
Manganese Grinding Works.
Cement Kilns and Mill.
Planing Mill and Woodworking Mill.
Iron Foundry and Machine Shop.

WITH THESE ARE PROJECTED:

An Eighty-Ton Blast Furnace.
A Coke Plant.
An Open Hearth Steel Plant, with Plate Mill and Galvanizing Works.

In addition to the foregoing, the following industries have been offered during the past week:

AN IRON BRIDGE WORKS, employing 600 hands.
LOCK FACTORY, HARDWARE FACTORY and a very large
MALLEABLE IRON WORKS from New England.

SALE OF LOTS.

The favor with which Savernake has been received has enabled the company to announce the sale to a syndicate of

SEVEN HUNDRED LOTS,

Equitably distributed throughout the town plot. These lots compose the most

Desirable Residence and Building Lots,

with superior location and magnificent views.

RESIDENCE LOTS, 50x125 feet, 50x175, 50x200 and of larger size when desired.

BUSINESS LOTS.

The map of Savernake contains

TEN BLOCKS OF BUSINESS LOTS.

Fronting on the Industrial Reservation and on Savernake, Victoria and Brudenell Avenues. Many of these have been sold, and at present prices offer a most desirable opportunity for profitable investment.

ESPECIAL RESERVATION OF LOTS FOR MECHANICS AND WORKINGMEN
desiring to build houses. Equitable prices and
easy terms of payments.

CORNWALL,

ROCKBRIDGE COUNTY, VIRGINIA.

R. E. LEE, President.

G. D. LETCHER, Secretary and Treasurer.

LETCHER & LETCAER, LEXINGTON, VA., Counsel.

DIRECTORS.

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J. C. Shields,

S. H. Letcher,

E. M. Moon,

R. E. Lee.

The Irish Creek Mineral & Development Co.

Capital Stock, \$800,000.00.

THE IRISH CREEK MINERAL & LAND CO. has been chartered by the Circuit Court of Rockbridge County, and its organization affected upon the subscription of the minimum capital stock.

Under this charter we have all the privileges granted to corporations by the legislature, save that of condemnation for railways, and can do all things needful and proper for the building up and developing varied and manifold industries and the arts and manufactures.

It is proposed to plant a manufacturing town, which, from the location selected, is available for manufacturing, building and residential purposes.

The Company has purchased a large body of land lying on both sides of Irish Creek, in Rockbridge County—a clear, bold and unfailing stream—and extends to the east bank of South River, containing about 5,170 acres.

MINERAL LANDS.

At least 4,000 acres of the tract are rich in minerals, iron and manganese ores of the very best character. It is in the line of the well known TIN ORES of this region. It is well timbered, and will furnish an abundance of bark for tanning purposes, as well as the wood for the various woodworking branches and industries. Thorough examinations of this property have been made, and no part of the mineral sections of the State are more favorably known than the IRISH CREEK VALLEY.

The Shenandoah Valley Railroad, the great thoroughfare between the North and South, runs along the western boundary of the property, giving quick and easy communication with all parts of the country.

Very considerable development of the iron ore beds have been made, and can be mined at a minimum cost. The SEIBERT BANK, where the mountain side was stripped off, exposed a vein of rich brown hematite ore 104 feet wide and about 50 feet up the side of the mountain. The Graham Ledge is an immense projection of ore from the side of the mountain about 15 feet high and 30 feet at its base.

The outcrop along the Seibert Ridge extends several miles, crossing the creek and traceable for a long distance through the Clark opening and into the adjoining property. It is the same vein of ore running through the famous Buena Vista property (which it adjoins) and which was so successfully worked for more than 50 years by the Jordans the then greatest iron masters in Virginia.

The several openings and the great outcropping prove the existence of thick ore in inexhaustible quantities, there being no less than 16 separate veins running through the property.

The following is an analysis of the ores tested by Dr. Henry Froehling, of Richmond, Va.: From eight separate packages he got an average of 53 per cent. of metallic iron, $2\frac{1}{2}$ per cent. of silica, 1 per cent. phosphorus.

Hon. E. T. Fristoe, of the Columbia College, of Washington, D. C., made three assays of iron ores taken from this property by Gen. Hurlbut Paine, Washington, D. C., and the metallic iron in each was as follows: One specular 50.19 per cent., two of hematite 55 and 61 per cent., and Mr. Geo. B. Hibbard, of Washington, had one made that was 62 per cent.

The appended table of measurements, with grade of ores, percentage of iron, etc., will no doubt prove of interest; and while some may doubt the correctness of the figures, all doubting minds can rest assured that they are correct. No section on the face of this earth is more richly endowed with mineral wealth as recent discoveries in Rockbridge have shown. Below is a description of the veins:

Vein No. 1.—104 feet wide, $1\frac{3}{4}$ miles long; brown hematite, high grade of car-wheel iron, and 57.88 per cent. pure metallic iron.
Vein No. 2.—150 feet wide, 950 yards long; manganese, 55.81 per cent. metallic iron.
Vein No. 3.—150 feet wide 460 yards long: same as No. 2, 50.81 per cent. metallic iron.
Vein No. 4.—30 feet wide, 450 yards long; brown hematite, 53.401 per cent. metallic iron.
Vein No. 5.—45 feet wide, 440 yards long; manganese, 53.116 metallic iron.

Vein No. 6.—Width and length not determined, but very large metallic manganese, 44.526 per cent.
Vein No. 7.—300 feet wide, 950 yards long; brown hematite, 55.558 per cent. metallic iron. A 59-foot shaft through this vein shows no bottom, and it is believed to be hundreds of feet through.
Vein No. 8.—15 feet wide, 50 yards long; manganese, 50.190 per cent. metallic iron.
Vein No. 9.—120 feet wide, 920 yards long; same as No. 8, 57.88 per cent.
Vein No. 10.—24 yards wide, 450 feet long; same as Nos. 8 and 9, 53.117 per cent.

Since this report was made six other veins of ore have been found, some very large in extent, but all hematite manganese except one of red hematite, and in the six there is enough manganese to make both spiegeleisen and ferro manganese, so that there are both basic and Bessemer steel ores. Beautiful specimens of float tin have been found on this property, and being so near the tin mines, and the character of the rock being the same (metamorphic), it is reasonably believed that the same veins run through this property that are found through the tin mines.

A large vein of red hematite ore has recently been found which is adapted to the manufacture of Bessemer steel. Its analysis by Professor Fristoe was metallic iron 39 per cent., phosphorus .084 per cent. This was made from a surface specimen, but when the vein is opened it will improve in grade as is the experience of all miners in iron ore. This outcrop is 40 feet wide.

The following is an extract from the report of Mr. C. R. Boyd upon the Graham ore property:

"In the Potsdam, sandstones and slates there are generally three and sometimes four lines of brown and red iron ores, with large quantities of manganese.

These two important ores of iron and manganese alternate with each other in these beds, and frequently are so intimately blended as to form a quite homogeneous manganese iron ore.

This is doubtless the case with the Patrick lead, showing so conspicuously on the crest of South Mountain on the northern margin of your property, about one mile air line south of South River and the Shenandoah Valley Railroad. It is true the surface for a width of over 200 feet (directly across the trend of the vein) shows a brown hematite iron ore, but it may safely be assumed that considerable bodies of manganese ore and manganese iron ore will be removed, should this seam ever be mined to a depth of several hundred feet, of which it is perfectly capable.

On the ridge south of Irish Creek, visited yesterday morning, the same description of ore shows, and doubtless forms a part of the blanket of ores and rocks that, by their dip, cover the northerly slope of this ridge throughout its length of about three miles on the property.

I found it difficult, in the sort time, to estimate the thickness of any of the deposits of ore seen, but from what I saw I regard the ores as in sufficient quantities to warrant mining operations on a large scale.

It may be proper to remark as to the quality of these ores, that their uses will be in the direction of processes employing a highly basic system of reduction.

An 80-ton furnace might be so constructed that, by the use of these ores, at least 6,000 pounds of phosphorus could be eliminated in four hours and employed as a constituent in the production of phosphate fertilizers.

You have the facility of attacking these ores rendered by the fact that the property is cleft throughout its greatest length by Irish Creek and its tributaries, down which is a good ore railway grade to the Shenandoah Valley Railroad."

Prof. N. S. Shaler, in the Arena, says: "The Shenandoah district of Virginia abounds in workable deposits of this mineral. The peculiar advantages of the Appalachian district is found in the fact that the ores lie in the neighborhood of excellent coal beds, which, in certain cases, can be used as it comes from the mine, or may be made to serve the needs of the smelter after it is converted into coke. The average distance of the iron ores from the coal needed to reduce it to the metallic state does not probably exceed 100 miles. Enough ore to make a ton of iron can at any point be mined and put in the furnace at a cost of between \$1 and \$2, while to bring the same amount of raw material from the earth about Lake Superior to the smelting point costs at the present time from \$9 to \$12."

Mr. John Jordan, one of the old furnace men and owners of Buena Vista, says that in 50 years' running of his and his father's furnaces the average of the ores taken from the mines at Buena Vista is 53 per cent. metallic iron.

The estimate for making here a ton of coke iron by a practical furnace man is \$8.50.

NAME.	ADDRESS.	Number of Shares Subscribed for.	Aggregate Amount to be Paid for all Stock Subscribed for

Circular No. 4.

Office of **The Grottoes Company,**

Shendun, Va. (Grottoes Station, Shen. Val. Ry.), Sept. 22, 1890.

To the Stockholders of The Grottoes Company:

The management of your Company takes this method of informing you that the 15,000 shares of its stock offered for sale by Circular No. 3, of July 14th, were all sold by the 15th of September, and that offers were subsequently made for many thousand more. Our stock is now in demand at a very considerable premium.

To protect your individual interest, as well as those of the Company, the management orders as follows:

First.—All the issue of Stock offered for sale by Circular No. 3 from this office having been disposed of, the books for the transfer of the Stock of this Company will be closed at noon, Sept. 24th, 1890, and remain closed until noon of Oct. 24th, 1890, to enable the Company to prepare a list of its stockholders qualified to participate in the public drawing for business and residence lots, which will take place at Shendun, October 14, 1890, beginning at 11 o'clock in the forenoon.

Second.—Each person who has paid all the assessments due prior to Oct. 14th on the stock he has subscribed for, will be entitled to draw a lot for each five shares of Stock standing in his name on that date.

Thurd.—Maps of Shendun, showing the lots that will be drawn for and those that the Company will offer for sale after the drawing, will be sent to each subscriber before the day of allotment.

Fourth.—After the allotment has been made, the Company will offer a number of alternate lots for sale at auction on that and the two following days.

We hope you will not only attend the drawing and sale of lots in person, but that you will bring others with you who may become interested in Shendun. Ample provision will be made for trains and for the entertainment of all who come. The street cars will be running for the whole length of Shendun as now laid out.

By order of the Executive Committee.

Jed. Hotchkiss,
President.

A. M. Howison, Secretary.

BEDFORD CITY, VA.

(FORMERLY LIBERTY.)

The Most Beautiful Residence Portion of this Growing City is

—* LONGWOOD PARK, *

The Property of the Longwood Land & Improvement Co.

The property is within five minutes' walk of the N. & W. R. R. depot. It is intersected by broad, oak-shaded avenues, and divided into building lots averaging ninety feet front by 230 feet deep. A superb view of the beautiful Peaks of Otte visible from every part of the property. Prices range from \$6 to \$12 per front foot, according to location, &c.

No Better Investment can be made than in Lots in Longwood Park, at these Prices.

THE CITY HAS AN ESTABLISHED SOCIETY.

Churches, Schools and Academies, (among them the finest in the South,) Manufactures of many kinds, a magnificent supply of Free-stone Water, systems of Arc and Incandescent Electric Lighting, admirable Railroad Connections, a surrounding country of unlimited Mineral Resources and Great Fertility. For further information apply to

R. KENNA CAMPBELL, Gen. Manager

The Longwood Land & Improvement Company.

THE PLACE FOR FACTORIES.

THE ROANE IRON CO.

WILL BUILD UP A

* LARGE MANUFACTURING CITY *

—AT—

ROCKWOOD, TENN.

AND IS PREPARED TO OFFER SUBSTANTIAL INDUCEMENTS TO MANUFACTURERS.

—O—AS TO RESPONSIBILITY OF THIS COMPANY, PARTIES ARE REFERRED TO EITHER DUNN OR BRADSTREET.—O

FOR PARTICULARS ADDRESS

ROANE IRON CO., Rockwood, Tenn

Maslin's Patent Steam Pump.
Pat. Feb. 12, & Dec. 3, '89.

Cheapest and Best Automatic Steam Vacuum Pump Handling DIRTY and GRITTY LIQUIDS without Wear, Oil or Care. Simple, Economical, Efficient & Durable. Pumping Plants for Contractors, Irrigation, Water Works, Railroads, Mining & General Hydraulic Purposes. Write or call for Circulars. JOHN MASLIN & SON, SOLE MANUFACTURERS, 108-107 1st St., Jersey City, N. J.



COMPLETE STEAM PUMP
10 SIZES FROM \$7 TO \$75

FOR DRIVE WELLS & ETC.

PRICES AND DESCRIPTIVE CIRCULARS
VANDUZEN & TIFT
SOLE MAKERS
CINCINNATI, O.

REVERSIBLE YERS STEEL & WOOD TRACK HAY CARRIERS.


TRADE MARK. A complete outfit. Easy to put up, always reliable and fully warranted to meet the wants of any farmer.

BEST HAY TOOLS IN THE MARKET.

MYERS' FORCE AND LIFT PUMPS

Simple, durable, powerful, easy to operate never affected by frost. Patent GLASS VALVE, will never corrode. Ask your dealer for our goods. Write for catalogue. F. E. MYERS & BRO. ASHLAND O.

Subscribe to the MANUFACTURERS' RECORD
Price \$4.00 a year, or six months for \$2.00.



DEAN BROS' STEAM PUMP WORKS.


BOILER FEEDER BREWERS AIR PUMP FIRE PUMP DUPLEX PUMP

PUMPING MACHINERY FOR ALL PURPOSES. **INDIANAPOLIS, IND.** SEND FOR CATALOGUE AND PRICES.



AUTOMATIC FEED PUMPS and RECEIVERS
For Returning Hot Condensed Water to Boiler.


STEAM PUMPS FOR ALL DUTIES.
The Buffalo Steam Pump Co.
BUFFALO, N. Y.



THE DEMING COMPANY,
(Late Silver & Deming Mfg. Co.)

PUMPS
For Hand and Power.


WELL SUPPLIES AND TOOLS,
SALEM, OHIO.



LAWRENCE MACHINE CO.
MANUFACTURERS OF

Centrifugal Pumps,
STEAM ENGINES,
General Machinery,
PHOS. BRONZE,
And Composition Pumps and Valves for
Pulp and Paper Mills,
LAWRENCE, MASS.

Send for Catalogue A and Disc's.




ALLENTOWN FOUNDRY & MACHINE CO.
ALLENTOWN, PA.

MANUFACTURERS OF THE **IMPROVED EUREKA TURBINE**
FOR ECONOMY OF WATER WITH GREATEST EFFICIENCY

"THE BEST IN THE WORLD"

REPEATED TESTS AT HOLYOKE, MASS. GIVE IT 5 PER CENT GREATER EFFICIENCY THAN ANY OTHER WHEEL TESTED THERE. ITS USE IN MINING DISTRICTS WITH SMALL AMOUNT OF WATER AND HIGH HEAD IS OF THE GREATEST ADVANTAGE. OVER 800 NOW IN USE.

SEND FOR CATALOGUE. RUNNING MILLS, FURNACES, WATER WORKS, FACTORIES, MINES, ETC.



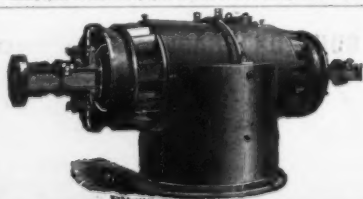
RODNEY HUNT MACHINE CO.
ENGINEERS, MACHINISTS, IRON and BRASS FOUNDERS,

Turbine Water Wheels
VERTICAL and HORIZONTAL.

IRON FLUMES and PENSTOCKS, HEAD GATE GEARING, REGULATORS, and everything pertaining to Water Wheels and Mill Work.

These Wheels are Superior for High Power and Efficiency, Excellent Workmanship and Great Durability. Tight Closing Gate; Easily Operated.

Used in many of the largest manufacturing establishments in the United States. 6,000 horse-power furnished one mill, 7,000 to another, 2,000 in one cotton mill, and one manufacturer 76 wheels. All now running.



54 in. wheel tested in mill after running two years.....	\$.450
36 in. wheel at Holyoke Testing Flume.....	\$.610
30 in. wheel at Holyoke Testing Flume.....	\$.900
30 in. wheel at Holyoke Testing Flume (another wheel).....	\$.780
30 in. (deep wheel) at Holyoke Testing Flume.....	\$.461

PART GATE.

30 in. wheel at Holyoke Testing Flume. Proportional quantity of water, 768, one-half gate opening.....	\$.768
Proportional quantity of water, 384, one-third gate opening.....	\$.768

Boston Office 70 Kilby Street.

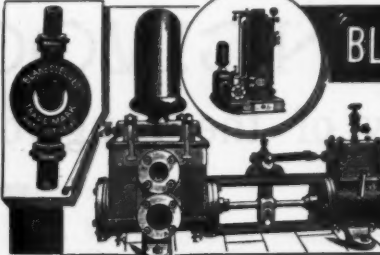
Catalogue Free.

ORANGE, MASS.

BLAKESLEE MFG. CO.
DU QUOIN ILL.

STEAM PUMPS.

We have just issued a new illustrated catalogue of our Steam & Jet Pumps. A copy will be mailed free on application.



THE LAIDLAW & DUNN CO.

STANDARD COMPOUND STEAM PUMP. STANDARD DUPLEX STEAM PUMP. HERCULES BOILER FEEDER.

PUMPS OF EVERY DESCRIPTION. CINCINNATI, O. SEND FOR CIRCULAR.



GEO. F. BLAKE MFG. CO.
BUILDERS OF STEAM AND POWER

Pumping Machinery

111 Federal Street, Boston.
95 and 97 Liberty St., N. Y., 535 Arch St., Philadelphia.



The Baldwinsville Centrifugal Pump.
OLDEST, BEST AND LATEST IMPROVED.

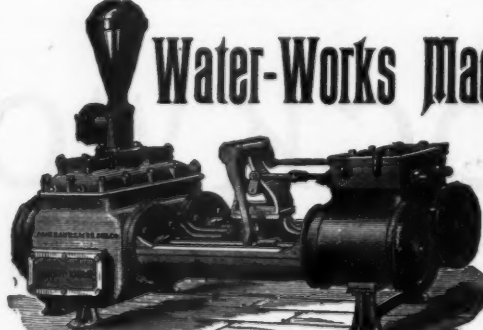
Especially adapted for contractors' use, Pumping Coffin Dams, Sewers, Sand-Pumping, etc. Irrigating Plants a Specialty. Address for catalogue, IRVIN VAN WIE, 48 & 50 West St., Syracuse, N. Y. Established 1861. Removed to Syracuse 1881.



The Improved Smith & Vaile
SINGLE, DUPLEX AND COMPOUND

Steam Pumps
FOR EVERY DUTY.

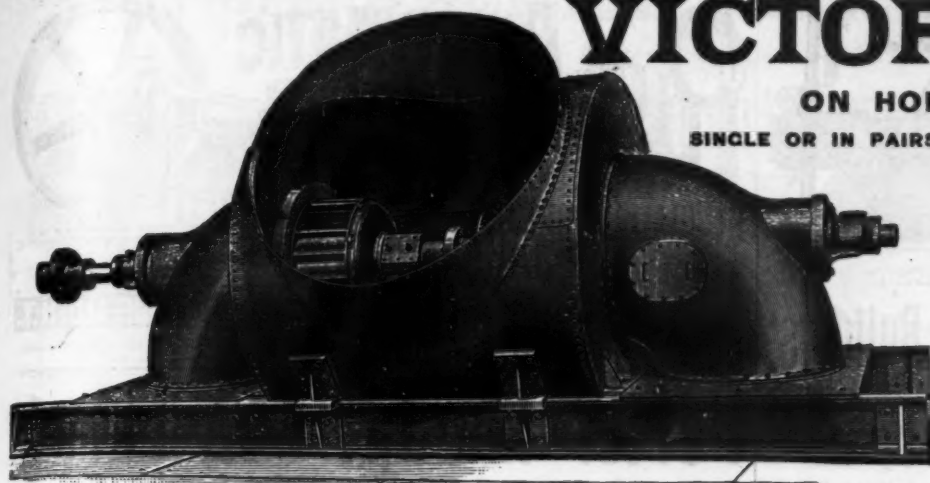
Water-Works Machinery.



The SMITH & VAILE CO.
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VICTOR TURBINE

ON HORIZONTAL SHAFT.

SINGLE OR IN PAIRS.

DISPENSING ENTIRELY WITH GEARS.

Actual Test of the VICTOR in Testing Flume, Holyoke, Mass.

Size of Wheel.	Head in Ft.	Horse Power.	Per Ct. Useful Effect.
15-inch	18.06	30.17	.8932
17 1/2-inch	17.96	36.35	.8930
20-inch	18.21	49.00	.8932
25-inch	17.90	68.62	.8934
30-inch	11.45	53.54	.8976
35-inch	17.39	113.19	.8497
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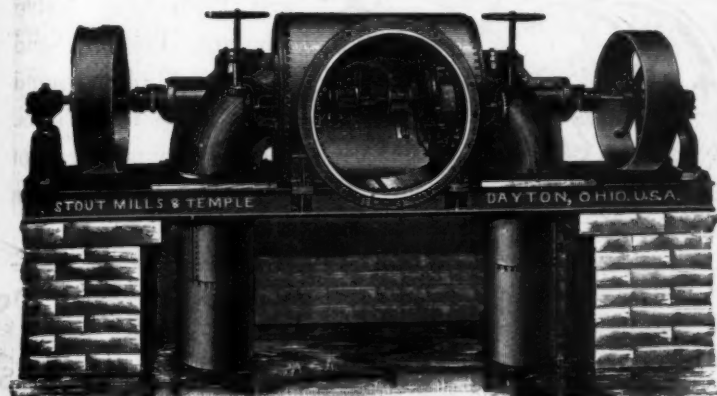
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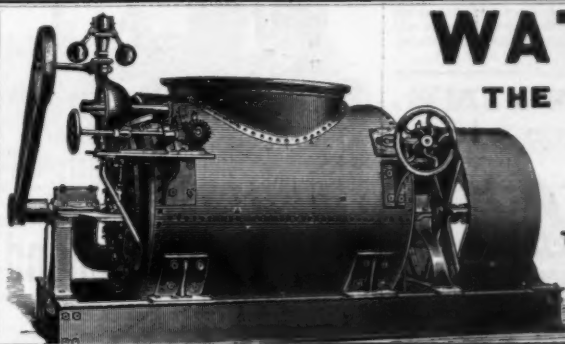


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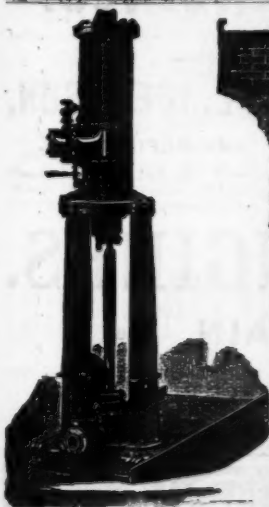
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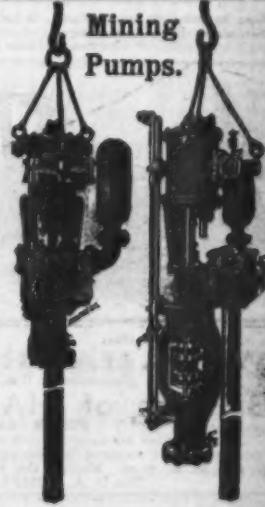
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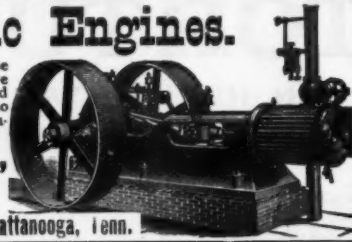
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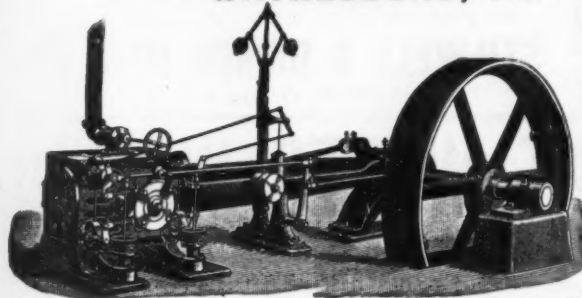
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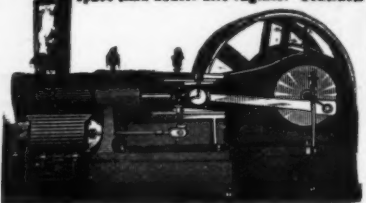
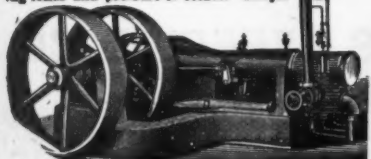
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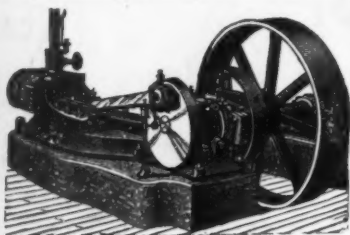
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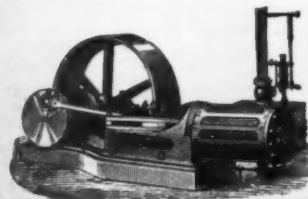
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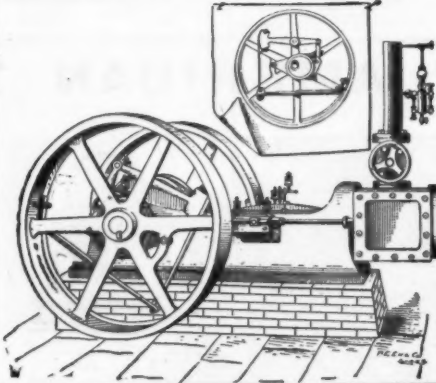


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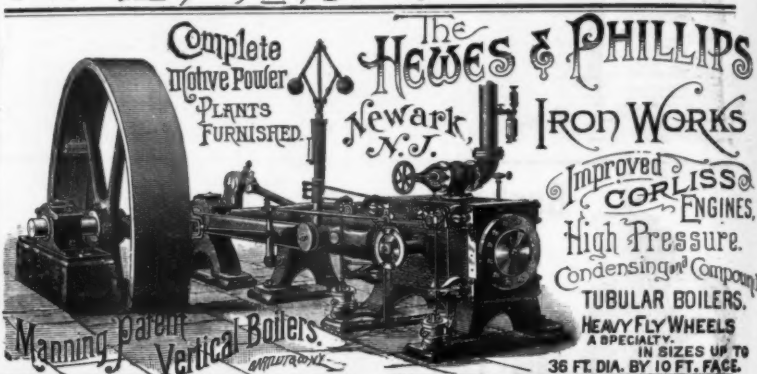
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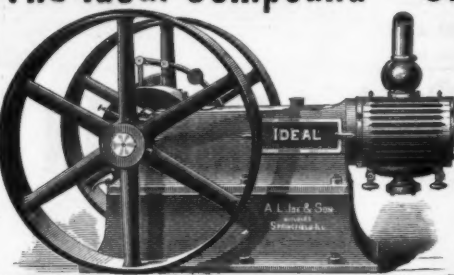
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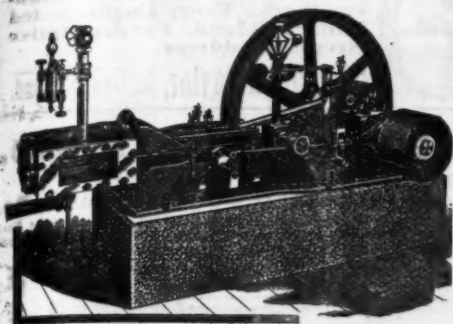
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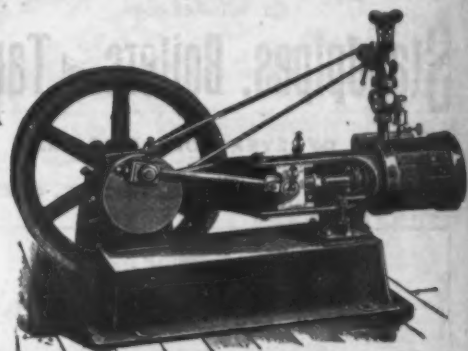
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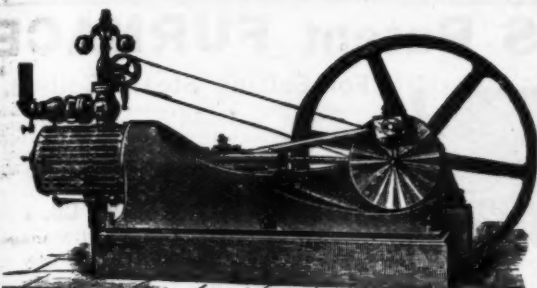
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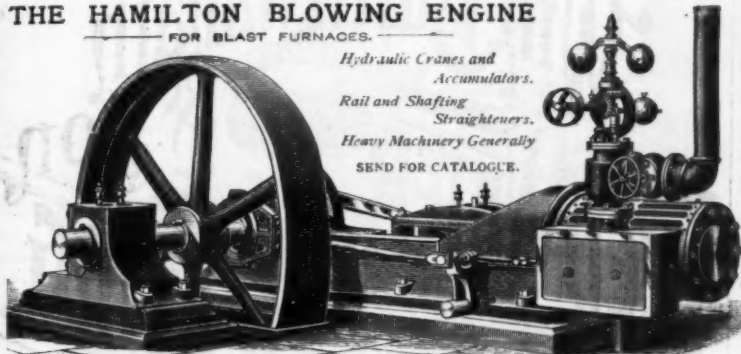
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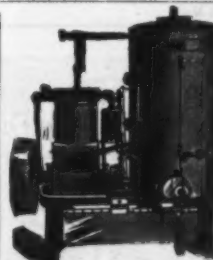
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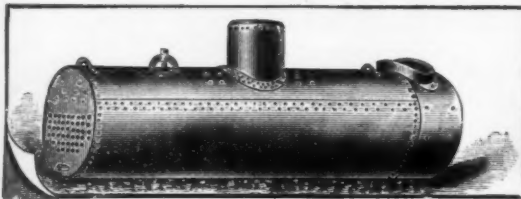
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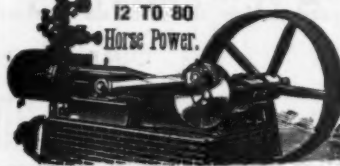
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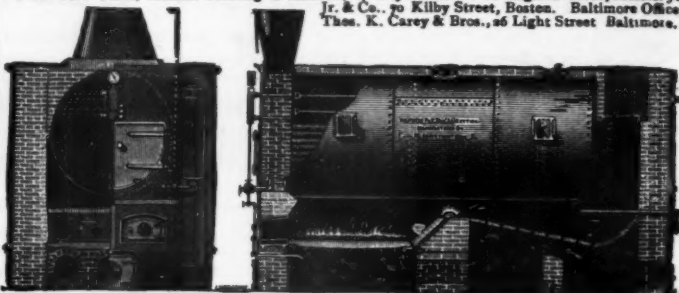
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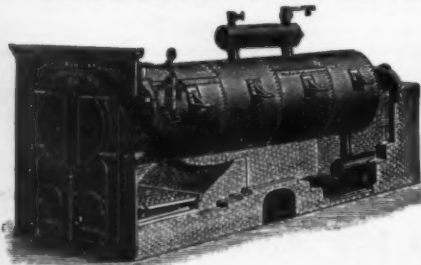
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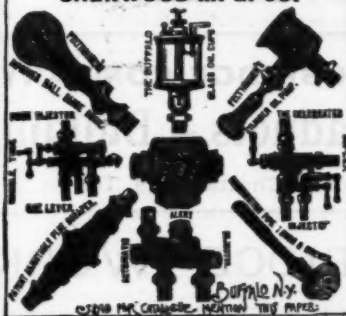
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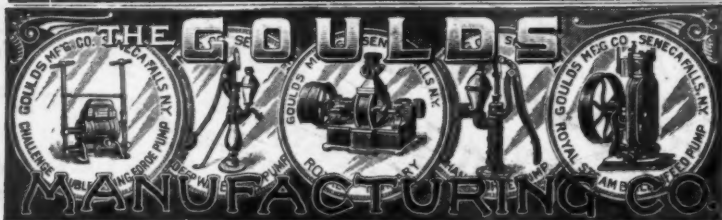


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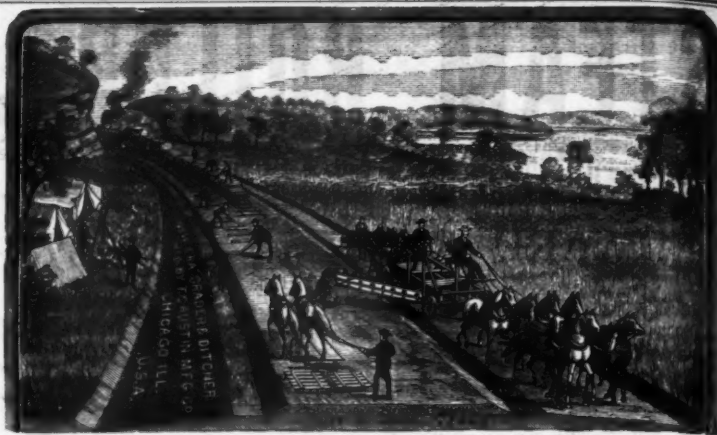
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Railroad Construction

Albany, Ga.—Street Railway.—Nelson Tift will soon commence building a street railway.

Asheville, N. C.—Street Railway.—The Asheville Loan, Construction & Improvement Co. has applied to the board of aldermen for the right of way to construct a street railway.

Bay St. Louis, Miss.—Street Railway.—The construction of a street railway is proposed.

Birmingham, Ala.—Electrical Railroad.—The Birmingham Railway & Electric Co., which controls and owns the Bessemer & Birmingham, Ensley and Birmingham Union railways, has been bonded at \$1,500,000, with the Central Trust Co., of New York, as trustee. The purpose of the mortgage is to secure funds to change the motive power to electricity.

Bristol, Tenn.—Railroad.—The Virginia, Tennessee & Carolina Steel & Iron Co., which is opening a number of mines in Tennessee and North Carolina, is surveying several lines with a view to selecting a route for a railroad when its mines are thoroughly examined.

Carbon Hill, Ala.—Railroad.—The Birmingham, Sheffield & Tennessee River Railway Co. (office, Sheffield) is reported as to build a branch road from a point on its line 30 miles north of Jasper to a connection with a branch road of the Kansas City, Memphis & Birmingham, running to the coal mines near Carbon Hill.

Chattanooga, Tenn.—Street Railway.—The Northside Street Railroad Co. will lay a double track on several streets.

Chattanooga, Tenn.—Railroad Bridge, etc.—It is reported that a terminal company has been organized and will build a double-track railroad bridge across the Tennessee river.

Chattanooga, Tenn.—Railroad.—The Chattanooga & Cumberland Gap Railroad has been chartered by J. M. Brooks, M. H. Ward, W. E. Baskette and others to build a railroad from Hamilton county to Claiborne county, on the Tennessee line opposite Middleborough, Ky.

Chattanooga, Tenn.—Electrical Railroad, etc.—The Lookout Mountain Incline Railroad Co. is the name of the company lately reported as organized by M. M. Henderson and others to build an incline railway up Lookout mountain. It is stated that the Union Railroad Co. will build an electrical railroad to connect with the incline.

Chattanooga, Tenn.—Belt Railroad.—The Chattanooga Belt Railroad Co. is double tracking about 2 miles of its road, lately referred to.

Chattanooga, Tenn.—Electrical Railroad.—The North Chattanooga Railway Co. is said to be negotiating for the changing of its line to an electrical railroad.

Childersburg, Ala.—Railroad.—The East Tennessee, Virginia & Georgia Railroad Co. (office, Knoxville, Tenn.) is reported as surveying for a branch road to extend from Childersburg to Montgomery via Wetumpka.

Dalton, Ga.—Railroad.—Frank T. Reynolds and others will build a standard-gauge railroad from Dalton to Spring Place, a distance of 14 miles.

Danville, Va.—Railroad.—The Virginia & Kentucky Railroad, mentioned in last issue (under Wytheville) as to be built by the Danville & Southwest Virginia Construction Co., is to extend from Danville to coal fields in West Virginia and Kentucky.

Elk Ridge, Md.—Railroad.—The Baltimore & Ohio Railroad Co. (office, Baltimore) will, it is stated, straighten its line from a point two miles below Relay station to a point below Elk Ridge Landing.

Henrietta, Texas—Street Railway.—The Henrietta Street Railway Co. has been chartered by W. J. Swain, F. L. Miller, D. C. Patton and others to construct the street railway previously mentioned. The capital stock is \$100,000.

Houston, Texas—Electrical Railroad.—S. Taliaferro and others propose building an electrical railroad in the new town of South Houston which they expect to incorporate.

Jackson, Miss.—Electrical Railroad.—The Jackson Land & Improvement Co. contemplates building an electrical railroad 3 miles long.

Lexington, Ky.—Railroad.—The Kentucky Union Railway Co. (office, Louisville) has purchased the Lexington Belt Line Railroad and will complete same to the Kentucky Union Railroad.

Llano, Texas—Railroad.—The proposition of C. E. Longcope, of Philadelphia, Pa.; T. F. McClure and others to construct a railroad to Llano is said to have been accepted, and the route selected is from Waco to Llano. Surveying is reported as commenced.

McDonough, Ga.—Railroad.—The Georgia Midland & Gulf Railroad Co. (office, Columbus) is reported as to extend its road from McDonough to Atlanta.

Memphis, Tenn.—Railroad.—The Belt Railroad Co. has been organized with Samuel Tate, president, to build the belt railroad previously referred to. The estimated cost is \$1,000,000.

Montgomery, Ala.—Railroad.—J. J. Woolfolk, auditor of the Alabama Terminal & Improvement Co., writes that his company intends building and equipping the Montgomery, Tuscaloosa & Memphis Railroad, and pushing the project to completion with all possible dispatch.

Nashville, Tenn.—Railroad.—D. B. Cooper, G. C. Sandusky, A. A. McCorkle and others have chartered the Shelbyville, Nashville & Northern Railroad Co.

Parkersburg, W. Va.—Electrical Railroad.—The consolidation of the Parkersburg Electric Light Co. with the Park City Street Railway Co. and the operation of the street railway by electricity is proposed.

Roanoke, Va.—Electrical Railroad.—The Roanoke Street Railway Co. let contract for the equipment of its line with the Westinghouse electric system, as stated last week.

San Antonio, Texas—Street Railway.—The West End Street Car Co. has increased its capital stock to \$100,000.

Savannah, Ga.—Railroad.—The Savannah & Riverside Railroad Co., lately reported as being organized to build a railroad from Savannah to and over Wilmington Island, has been incorporated by T. T. Johnson, E. F. Bryan, B. S. Wells and others.

St. Joseph, La.—Railroad.—David Urquhart, now abroad, contemplates building the narrow-gauge railroad from St. Joseph to New Light, recently mentioned. W. C. Michie can give particulars.

Talladega, Ala.—Railroad.—The Birmingham & Atlantic Railroad Co., lately reported as purchasing the Talladega & Coosa Valley Railroad, and to probably extend same, will have completed within the next 30 days a 10-mile mineral branch that opens up a large quantity of iron ore.

Troy, Ala.—Railroad.—The directors of the Mobile & Girard Railroad, lately mentioned, have decided to issue bonds at the rate of \$12,700 per mile for the construction of the road from Troy to Pollard, Brewton or some other point west of Troy. A stockholders' meeting will be held at Girard on November 23 to ratify the directors' action.

Whitesborough, Texas—Street Railway.—J. M. Lee, of Gainesville, reported last week as securing a franchise to construct a street railway, has, with H. H. Robertson, J. A. Stadfield and others, incorporated the Whitesborough Street Car Co.

MIDDLESBOROUGH'S reputation in Europe is well established. British capital furnished the bulk of the money with which the foundations of that marvelous mountain city were laid, and has contributed a great deal more for the establishment of many of the leading industries that are to make successful her future career. A letter elsewhere in this issue gives the names of quite a number of distinguished English people who arrived there last week. While most of them went there to make investments, the remainder were attracted to the city by the fame it had acquired abroad. Among these notables was a party of ten members of the British Iron and Steel Institute, under escort of Prof. John R. Procter, the erudite State geologist of Kentucky, whose researches have been of untold value to both that State and the two Virginias. It is significant of the impression made upon the British mind by the Middleborough enterprise that these ten gentlemen preferred to spend the time their colleagues would devote to sight-seeing elsewhere, to a thorough examination of the resources of the region of which that city is the center, and all of which its astute manager, Col. Arthur and his able lieutenants, are engaged in developing. That what they will have seen during their few days visit will make a profound impression upon their minds goes without saying. That it will result in a still greater inflow of foreign capital for the building up of other large industries in that vicinity may be taken for granted.

BESSEMER ORES.

Cumulative Evidence of the South's Iron and Steel Resources.

The steel ore region of the South covers a large area, and comprises a greater variety of high grade ores than have been found in any other country of the world. The joint statement addressed to Mr. Edward Atkinson by Col. George B. Cowlam, of Knoxville, Tenn., and Major Goldsmith Bernard West, of Tredegar, Ala., which furnished the text of his elaborate, statistical and theoretical paper respecting the present and prospective iron and steel production of the South (published September 27th in the MANUFACTURERS' RECORD), have attracted world-wide attention. Mr. Atkinson's paper has probably done as much to gain for the South the recognition to which its resources entitle it as any one thing that has ever been written. Previous claims as to the South's resources in Bessemer ore had been received with some incredulity. Mr. Atkinson's article and the letters from Messrs. Hewitt, Cowlam and West were the first authoritative statement concerning Southern Bessemer ore. All reasonable doubt on this point has been dispelled, and widespread interest has been awakened which will undoubtedly result in enormous investment and development.

Testimony in support of the statements and statistics of Mr. Atkinson's elaborate essay are coming forward in great volume and from many places and people.

Among these cumulative testimonies, one of the most carefully compiled has been published by Mr. Edwin Fitzgerald, traffic manager of the East Tennessee, Virginia & Georgia Railway, a gentleman having an unusually accurate knowledge of the resources of all the States traversed by that system, whose main line and numerous branches make a grand total of 1,780.3 miles, and cover or have tributary to them an area ten times greater. The resources of this railway system, as set forth in this publication, are told by Prof. Henry E. Colton, for a long time the State geologist of Tennessee, a scientist of high repute throughout the country because of his accurate knowledge and his well-known conservatism. In his letter transmitting to Mr. Fitzgerald the compilation he had made of the mineral wealth and the agricultural and timber resources of the South Appalachian region, and especially a more particular description of the great Bessemer steel ore region of the South, Professor Colton said:

"The importance of this ore in the future progress of the iron industry of the South cannot be overestimated; in fact the great quantity of this ore, its production at low cost and cheap transmission to market will assure the future success and prosperity of the manufacture of iron at the South. It has been the boast of some Northern iron-makers that while the South had an immense amount of ore to make common iron, it could not compete with them in the making of metal for the manufacture of iron for steel rails; the facts are that from the magnetic iron ore of this great area is made a metal not only fit for rails and the finest of structural steel, but from which the finest of cutlery has been and can be made.

It has also been ascertained that this ore exists in a quantity far beyond the wildest dream of the enthusiast, in vast masses, such enormous cliffs, far above water level, that the most accustomed eye is dazzled with the sight and the mind astonished."

This vast body of magnetic ore is found in what Professor Colton styles the Roan mountain region of North Carolina and East Tennessee. Describing it he says:

"There is no doubt that in the counties

named is a variety and quantity of iron ore surpassing the wildest dreams of enthusiasts, and changing somewhat the words of the Queen of Sheba, "the half is not known." A few years ago the great ore quarry at Cranberry was thought to be a thing of itself, standing grandly alone, a *luxus natura* enormous, all but a few admitted, in the quantity of ore it contained, but believed by many to be a grand struggle of nature to concentrate her efforts on one spot. Now, not only is it known to exist in a belt for full one hundred miles or more, but along that belt have been found beds which rival, if not surpass, the great Cranberry.

The Roan mountain iron region commences at the end of the great Cranberry bed, and reaches in an unbroken line to the Nolanchucky or Toe river, a distance of full thirty miles. At some points it apparently disappears or becomes thin, but again it widens into great masses, and late investigations have proven that the great bed is ever persistent, ever the same in freedom from injurious matters, and offering a quantity of metal which is destined to be the rival of the Lake Superior region in the production of Bessemer steel ores for the United States. * * *

Nor is this magnetic iron ore, of which there are a number of veins, all the iron ore of this region. Ever to the west of the great main belt is found a vein of hematite, sometimes slaty in nature, at other times compact, but wherever opened, and it is admitted that little is known of it, always rich in iron and free from deleterious impurities. * * *

One belt of magnetic ore commences, as far as at present explored, in the northeast end of Mitchell county, and extends in a general direction north 75° east for about 15 miles into Carter county, Tennessee. Like all the veins of the Allegheny mountains it is lenticular, having large bodies of ore connected by a comparatively narrow vein. These large bodies vary in their distance apart from one-half to two miles; the vein between is usually four to five feet thick. The ore at Cranberry out-crops on the west side of a small mountain in a great mass. On the east side at the foot of a high mountain an opening was made which developed the ore at a thickness of four feet. No exploration has been made any further up the mountain. The body of ore is frequently capped and intermingled with handsomely crystallized hornblende and epidote. Pyroxene and calcite are also abundant in the vein, and sometimes a few crystals of quartz occur. No apatite has ever been found, and no phosphorus at all, or only a bare trace. It belongs to the self-fluxing magnetites, and resembles very much the ore from Chateaugay, N. Y., having probably less silica than that ore. It is, therefore, as is that ore, very nearly or quite the counterpart of the famous Dannemora ore of Sweden."

Analyses of North Carolina Bessemer ores given by Prof. Colton show as follows:

Mag. oxide of iron.....	94.37	91.45	85.59	90.77	92.50
Oxide of manganese.....	0.36	0.06	0.24	1.44	0.33
Alumina.....	0.43	0.77	0.11	0.58	1.09
Lime.....	0.43	1.01	0.73	....	1.00
Magnesia.....	0.36	0.53	0.33	....	0.33
Water.....	....	0.44	1.53	....	1.15
Silica, pyroxene.....	4.16	5.74	11.48	9.68	4.48
Sulphur.....	....	....	....	....	0.35
Phosphoric acid.....	....	....	....	....	trace
Metallic iron.....	68.34	66.23	61.98	59.49	66.53

Beyond the Cranberry mines are continuous ore tracts owned by individuals or corporations, among which are 5,000 acres belonging to the East Tennessee Mining & Improvement Co., and 65,000 acres owned by the Roan Mountain Iron & Steel Co. This last property has been opened at many places by Professor A. G. Weatherby, formerly professor of geology and zoology in the University of Cincinnati. This gentleman, in a letter to Mr. Fitzgerald, published in the same pamphlet, says:

"At least three distinct classes of Bessemer ores are known to me in this district,

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	BID.	ASKED.
North Carolina 4's, 1910.....	98	100
North Carolina 5's, 1919.....	122	122
Virginia New 3's, 1933.....	68	68 1/2
Danville 5's.....	100	103
Lynchburg, Va., 5's, 1915.....	103	103
Petersburg, Va., 5's, 1915.....	104	104
Norfolk, Va., 5's, 1911.....	106	106
Richmond, Va., 5's, 1922.....	108	108
Atlanta & Charlotte Ry., 1st 7's, 1907.....	122	122 1/2
Atlanta & Charlotte Ry., 2nd 6's, 1900.....	103	103
Char., Col. & Aug. R.R. Gen. 6's, 1932.....	109	109
Georgia Pacific Ry., 1st 6's, 1922.....	110	111 1/2
Georgia Pacific Ry., 2nd 5's, 1923.....	74	75
Ga. Pacific Incomes, 5's.....	19	21 1/2
Petersburg Railroad Class A 5's, 1926.....	105	105
Petersburg Railroad Class B 6's, 1926.....	105	105
Rich. & Danville R. R. Gold 6's, 1915.....	115	115
West. N. Car. R. R. Gold 6's, 1914.....	100	102
Northwestern N. Car. R. R. 1st 6's.....	101	101
Atlanta & Charlotte R. R. Stock.....	97	98
North Carolina Railroad Stock.....	103	103
R. F. & Pot. R.R. Div'd Obligations.....	113 1/2	114 1/2
Virginia Midland Railway Stock.....	52 1/2	52 1/2
Sloss Iron & Steel Co. Stock.....	30	40
Sloss Iron & Steel Co. 1st 6's.....	91	92
Sloss Iron & Steel Co. 2nd 6's.....	60	65

SEALED PROPOSALS will be received by the West End Hotel & Land Company of Winston until 12 M. October 30th, 1890, for the erection of a large frame hotel 410 feet front, 60 feet deep, with 100 feet L, four stories high. Plans and specifications may be seen at the office of the company at Winston, N. C., or at the office of the architects, Messrs. Wheelright & Haven, 6 Beacon street, Boston, Mass. Each proposal must be accompanied by a certified check in the sum of \$5,000, payable to order of James A. Gray, cashier, conditioned upon the execution of a contract to erect the hotel in accordance with the plans, specifications, etc. When contract is made a good and sufficient bond in the sum of \$25,000 will be required, conditioned upon the faithful execution of the terms of the contract. Hotel to be completed by October 1st, 1891. For further particulars apply to P. M. WILSON, Secretary, Winston, N. C.

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Creeks. This is without any exception the most valuable boundary of coal land in the whole South,
is now accessible and could not be more favorably situated for mining, the Clear Creek Valley being
an ideal spot for mining and coke making plants.

The property is situated very close to the ascertained center of the population of the United
States, and contains the Nearbest Good Coking Coal to the great bodies of North Carolina
iron, and a plentiful supply of the limestone and water.

Prof. A. R. Crandall, of the Kentucky State Geological Survey, has just finished a prospecting of
the property, making some sixty (60) coal openings, showing five workable seams 40 to 52 inches, all
above water level, and proving it an extremely rich field. The following are extracts from his report:

"The number of coal seams opened correspond with that of the adjoining Yellow Creek region,
(owned by the American Association limited,) with an equal number of workable beds. My impres-
sion is that the Red Spring bed is the same as the Bennett's Fork main seam, while the Poplar Lick
bed is the same as the Big Sagan coal of Bennett's Fork (American Association)."

"The Lower Hignite (coking coal) seam is better than on the Middlesboro side. It is an excep-
tionally good coal, but other beds also stand in the first rank for quality, as you will notice from
analyses annexed."

"Samples for analyses were cut from the **Whole Face** of the beds represented, driven barely
far enough to obtain clean and firm coal. Other beds in the region would be valuable in the absence
of those already mentioned."

"The region is heavily timbered. Probably the average of timber will not fall short, all kinds
marketable included, of 1500 feet per acre. Some localities exceed this considerably, from actual
count."

**Analyses of Log Mountain Coals (Hull, Wyman & Cairns) by Prof. B. Peter, of the Ken-
tucky State Geological Survey, September, 1890.**

Lower Hignite.	Red Spring.	Upper Hignite.	Poplar Lick.	Lower Hignite.	Cannel Coal.
Bear Creek.	Head of Hignite.	Bear Creek.	Bear branch.	Showing birdseye	Bear Creek.
45 1/2 in.	Lower Bench.	42 in.	50 in.	Clavages.	45 in.
2.66	39 1/2 in.	2.00	1.50	1.60	1.00
Moisture.....	34.14	34.30	33.80	33.40	51.60
Volatile combusti- ble matters....	59.70	60.40	59.10	61.53	40.40
Fixed carbon.....	3.30	3.20	5.70	3.48	7.00
Ash.....	0.840	0.576	0.985	0.656	0.739
Sulphur.....					

The cannel coal lies under 34 inches of bituminous coal, making a very valuable bed.

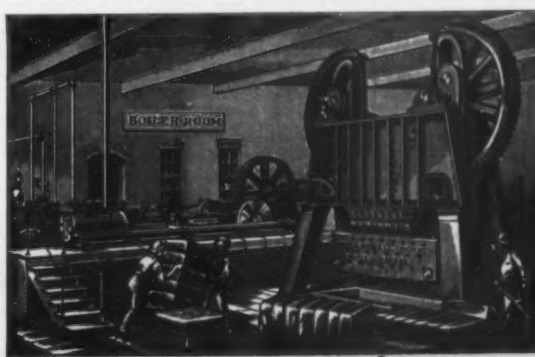
We prefer to lease the whole property for a term of years to one responsible company or party,
with a fixed minimum rental and royalty, but would consider propositions to lease 500 or 1,000 acre
boundaries, or to sell outright, retaining a lien or first mortgage bonds for a considerable proportion
of purchase price, with interest at 6 per cent., payable semi-annually.

We will be at the office of "HULL & BARCLAY'S ADDITION," Pineville, Ky., during the month of
October, prepared to show the property.

HULL, WYMAN & CAIRNS, Pineville, Ky.

F. A. HULL, Danbury, Ct. H. P. WYMAN, Grand Haven, Mich. T. CAIRNS, Pineville, Ky.

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In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ALABAMA.

Ashville—Electric-light Plant.—A stock company, with J. A. Hodges as secretary, has been organized to erect an electric-light plant.

Ashville—Brick Works.—It is reported that brick works will be built.

Athens—Oil Well.—It is reported that an oil well will be sunk near Athens.

Birmingham—Cultivator Factory.—W. C. Dolens, of Dallas, Texas, has, it is reported, organized a stock company to manufacture his patent cotton cultivator.

Birmingham—Steel Plant.—S. T. Woodard and others, of New York city, have made a proposition to the Elyton Land Co. for the erection of a \$400,000 steel plant. It is stated that the company will probably subscribe \$50,000 to secure the enterprise.

Bluffton—Water Works, Iron Furnace, &c.—It is stated that a water works system and an iron furnace will be constructed, and a sash, door and blind factory erected. The Bluffton Land, Ore & Furnace Co. can give information.

Bluffton—Firearm Works.—The American Arms Co., previously reported, is erecting a main building 220x80 feet.

Florence—Bucket Factory.—The Geo. E. Bennie Manufacturing Co. will, it is reported, enlarge its bucket factory.

Florence—Iron Railing Works.—Edward Rasch has, it is reported, added a foundry and machine shop to his iron railing works.

Fort Payne—Steel Plant.—A Philadelphia (Pa.) company is reported as having signed contract for the removal of its steel plant to Fort Payne. The Fort Payne Coal & Iron Co. can give information.

Gadsden—Grist Mill, &c.—Cassels, Pope & Co. contemplate adding to their grist mill a mill for pearl grits.

Mobile—Woodworking Factory.—Hutchinson, Harrison & Co. will, it is stated, erect a woodworking factory.

New Decatur—Furniture Factory.—C. E. Hoy is president; L. M. Falk, vice-president, and M. C. Wade, secretary, of the stock company recently reported as organized to erect a furniture factory.

New Decatur—Street Improvements.—The city council is considering the issuance of \$35,000 of additional bonds for street improvements.

Oneonta—Water Works.—A system of water works will, it is stated, be constructed. The Oneonta Land & Improvement Co. can give information.

Pell City—Pipe Works.—Pipe works are reported as to be built. The Pell City Iron & Land Co. can give information.

Pell City—Iron Furnace.—It is stated that work will soon be commenced on the construction of the iron furnace previously reported as probably to be built.

Piedmont—Shoe Factory.—G. H. Kingman, of Brocton, Mass., is reported as having organized the Piedmont Shoe Manufacturing Co.; has selected site, and will, it is stated, erect a shoe factory 120x30 feet, two stories high.

Riverton—Iron Furnaces.—The Riverton Land Co. will, it is stated, soon commence work on the construction of two iron furnaces reported some months ago.

Talladega—Iron Mines.—The Alabama Construction Co. will develop iron mines.

Troy—Electric-light Plant.—The city will probably contract for the erection of an electric-light plant. The mayor can give information.

Tuskegee—Artesian Well.—The Western Railway of Alabama (office, Montgomery) is reported as sinking an artesian well at Chehaw, near Tuskegee.

ARKANSAS.

Arkadelphia—Electric-light Plant and Water Works.—G. W. Carder will receive bids for the construction of the water works and erection of the electric-light plant lately mentioned.

Berryville—Distillery.—Davis Bros. will, it is reported, erect a distillery.

Eureka Springs—Coal Mine.—Stewell & Co. are reported as making \$45,000 worth of improvements at their Eureka coal mine.

Little Rock—Planing Mill.—Aikin & Gittings have, it is reported, erected a planing mill.

Little Rock—Bridge.—It is stated that the bridge, previously reported as probably to be built across the Arkansas river to Argenta, will cost about \$200,000.

Little Rock—Cotton-seed Oil Mill.—The Little Rock Oil & Compress Co. is reported as putting new machinery in its cotton-seed oil mill.

Little Rock—Excelsior and Spring Factory.—The Oates Manufacturing Co. has been organized with Isaac Wolf as president, and S. J. Beauchamp, secretary, for the purpose of manufacturing excelsior and mattress springs. The capital stock is \$10,000.

Malvern—Saw Mill.—The Malvern Lumber Co. will, it is stated, erect a new saw mill.

Texarkana—Electric-light Plant and Gas Works. J. Deutschman is president and F. W. Openhauser, secretary, of the Texarkana Gas & Electric Railway Co., lately reported. The capital stock is \$500,000.

FLORIDA.

Baker County—Saw, Planing and Shingle Mill. M. D. Barber, of Macclenny, will, it is reported, establish a saw, planing and shingle mill.

Bartow—Electric-light Plant and Water Works. J. W. Brady, J. O. C. Blount and others will probably organize a stock company to construct water works and erect an electric-light plant.

Bartow—Fertilizer Factory.—J. D. Gibson is president, and A. F. Phar, secretary, of the \$200,000 stock company lately reported as organized to erect a fertilizer factory.

Bartow—Electric-light Plant.—The Thomson-Houston Electric Co., of Boston, Mass., has, it is stated, decided to erect an electric-light plant in Bartow.

Bellevue—Box Factory.—Terry & Sheets, of Tavares, will, it is stated, move their orange-box factory to Bellevue.

Braiden Town—Canning Factory.—A canning factory will probably be established.

Chipley—Barrel Factory.—C. P. Lynch & Son have, it is stated, established a barrel factory.

Estifanulga—Saw Mill.—A saw mill is reported as to be erected.

Gainesville—Phosphate Land.—The Alachua County Phosphate Co. has, it is stated, purchased the John B. Dell phosphate land for \$300,000.

Jacksonville—Phosphate Mines.—A \$600,000 stock company has, it is stated, been organized to develop phosphate mines.

Lakeland—Laundry.—A steam laundry is reported as to be erected.

Macclenny—Rice Mill.—A rice mill is reported as to be established.

Palm Beach—Land.—The Juno Beach Land Co. has been incorporated with Samuel Barton, president; A. Van Santvoord, vice president, and C. V. Barton, secretary, for the purpose of developing and improving Juno Beach in Dade county. The capital stock is \$50,000.

Port Tampa—Water Works.—The South Florida Railroad Co. (office, Sanford) has completed a water works system at Port Tampa, and not Tampa, as recently reported.

Quincy—Cigar Factory.—The Owl Cigar Manufacturing Co., of New York city, will, it is stated, erect the cigar factory previously mentioned.

St. Augustine—Jetty Work.—Captain W. M. Black, United States engineer, will receive proposals until November 15 for furnishing materials and constructing jetties at the mouth of St. John's river.

Tavares—Bridge.—The King Bridge Co., of Cincinnati, Ohio, has, it is reported, received contract, at \$3,800, to build a bridge across Dead river.

Tompkinsville—Phosphate Mine.—The Globe Phosphate Mining & Manufacturing Co., lately reported (under Citrus county) as organized, has been incorporated with a capital stock of \$5,000,000.

Tompkinsville—Phosphate Lands.—A company is reported as having purchased the phosphate lands of T. J. Cochran for \$25,000.

GEORGIA.

Athens—Wire-alarm System.—It is stated that the city will introduce the Gamewell electric fire-alarm system.

Atlanta—Oil Refinery.—The Southern Cotton Oil Co. will rebuild its oil refinery, as previously reported.

Atlanta—Stove Works.—The Georgia Stove & Range Co. has recently increased the capacity of its works and enlarged its foundry.

Augusta—Soap Factory.—A Pennsylvania party is reported as having secured site for and as to organize a stock company to erect a soap factory.

Augusta—Bridge.—G. H. Crafts, of Atlanta, is reported as having received contract at \$11,800 for building the iron bridge over the Broad street canal, previously mentioned.

Augusta—Starch Factory.—W. F. Parks, 739 Broad street, is considering the establishment of a starch factory.*

Brunswick—Harbor Improvement.—C. Downing, M. Ullman, J. S. Thomas and others have incorporated the South Atlantic & Gulf Harbor Improvement Co. for the improvement of harbors on the South Atlantic coasts of the United States. The capital stock is \$1,000,000.

Carrollton—Axe-handle Factory.—An axe-handle factory is reported as to be erected.

Carrollton—Foundry and Machine Shop.—D. L. Trussell is organizing the stock company lately mentioned to establish a foundry and machine shop.*

Dawson—Electric-light Plant.—The Edison General Electric Co., of New York city, has, it is stated, received contract for erecting the electric-light plant previously reported.

Griffin—Electric-light Plant and Water Works. The Griffin Water Co., recently organized, has been incorporated by W. A. Robinson, J. T. Robinson and E. R. Hulbert, to erect an electric-light plant and construct water works. The authorized capital stock is \$75,000.

Jackson—Laundry.—A steam laundry will be established, it is reported.

Kensington—Caret Factory, &c.—Philadelphia parties are reported as to move several carpet factories to Kensington. The Kensington Land & Improvement Co. can give information.

Kensington—Chenille Factory.—A chenille and fancy curtain factory will probably be removed to Kensington. The Kensington Land & Improvement Co. can give information.

Keysville—Chair Factory.—A chair factory has, it is reported, been established.

Macon—Mower Factory.—Thomas E. Barrow, John Creigh, of Mansfield, Ohio, and A. B. Small, of Macon, will probably organize the \$50,000 stock company previously mentioned as to manufacture the mower patented by J. M. Hunt, of Round Oak.

Newnan—Ginnery.—S. E. Leigh and J. W. Arnold have, it is stated, erected a cotton ginnery.

Newnan—Grist Mill and Gin.—The Grantville Ginning Co. will, it is reported, add a grist mill to its cotton gin.

Savannah—Manufacturing.—The capital stock of the Liberty Manufacturing Co., lately reported as incorporated, is \$25,000.

Savannah—Naval Store Manufactory.—W. Pritchett, John C. Powell, W. W. Beach and others have incorporated the Savannah Naval Stores Co. to manufacture naval stores, &c. The capital stock is \$100,000.

Savannah—Real Estate, &c.—C. M. Gilbert, H. T. Moore, J. W. McAlpin and others have incorporated the Young Men's Home Investment Co. to deal in real estate, &c. The capital stock is \$100,000.

Smithville—Water Works.—A water works system will probably be constructed.

Tallahassee—Water Works.—The Tallahassee Water Works Co., previously reported, has, it is stated, let contract to F. S. Myers for the building of an engine-house 20x24 feet and a boiler-house 24x28 feet.

Tallahassee—Electric-light Plant.—The Tallahassee Foundry & Machinery Co. is reported as having put an electric-light plant in its foundry and machine shops.

Tallahassee—Glass Works.—As stated last week, the Piedmont Glass Co. has enlarged its glass works to a 12-pot furnace, and will soon put in another 12-pot furnace.

West Point—Electric-light Plant.—It is stated that the Planters' Oil & Manufacturing Co. has purchased the Lanier foundry and machine shop, increased its capital stock to \$75,000, and will erect an electric-light plant, grist mill and fertilizer factory.

KENTUCKY.

Ashland—Water Works.—The Ashland Water Co. will probably construct a storage reservoir.

Ashland—Grist Mill.—Mr. Lampton is reported as erecting a grist mill.

Ashland—Pipe Line.—J. B. Bradley, of Wells, N. Y., and M. D. Teague, of Kansas, have applied for franchise to construct a pipe line to supply the city with natural gas from their wells in Martin county.

Ashland—Steel Plant.—Work has been commenced on the construction of the Ashland Steel Co.'s steel plant, lately reported.

Charlottesville—Water Works.—T. L. Rosser, of Charlottesville, Va., and Patton, Brown &

McConnell have received franchise to construct the water works mentioned in last issue.

Covington—Brewery, &c.—John Selter will rebuild his brewery and ice factory recently burned.

Georgetown—Grain Elevator.—E. N. Offutt & Co. will, it is stated, erect a grain elevator with a capacity of 75,000 bushels.

Lexington—Planing Mill.—John Luigart is reported as erecting a planing mill.

Louisville—Box Factory and Planing Mill.—W. N. Barr will, it is stated, rebuild his planing mill and box factory reported in this issue as burned.

Middlesborough—Sash, Door and Blind Factory.—It is stated that J. D. Roberts, of Danville, and others will erect a sash, door and blind factory in Middlesborough.

Middlesborough—Wire-rope Factory.—F. W. Scott, of England, is investigating with a view of establishing a wire-rope factory in Middlesborough.

Middlesborough—Iron and Steel Plant.—E. H. Watts, of London, Eng., president of the Watts Steel & Iron Co., now building an iron and steel plant in Middlesborough, contemplates, it is said, removing to this place from England a structural iron works plant with a capital of \$5,000,000.

Middlesborough—Pipe Works.—A New York company is reported as to establish cast iron pipe works in Middlesborough with a capital stock of \$500,000. The Middlesborough Town Co. can give information.

Middlesborough—Car-wheel Works.—The Griffin Car Wheel Works, of Buffalo, N. Y., it is said, contemplates erecting car-wheel works in Middlesborough.

Middlesborough—Car Works.—A stock company will probably be organized to erect car works. The Middlesborough Town Co. can give information.

Pineville—Water Works.—The Pineville Water Co. is reported as having improved its water works and built a stone reservoir.

LOUISIANA.

Alexandria—Ice Factory.—The erection of an ice factory is projected.

Alexandria—Bridge.—A bridge will probably be built across Red river.

Alexandria—Bridges.—The Queen City Bridge & Steam Forging Co., of Cincinnati, Ohio has received contract for building an iron bridge at Cryers, on Twelve-mile, and one at Gubser's mill.

Baton Rouge—Electric-light Plant.—The Citizens' Electric-light Co. has, it is reported, purchased the Baton Rouge electric-light plant for \$30,000.

Hammond—Printing Works.—The Hammond Printing Works is reported as putting new machinery in its printing works.

Monroe—Cotton Mill.—Uriah Millsaps is president; A. B. Tissington, vice-president, and D. A. Beard, Jr., secretary, of the \$200,000 stock company previously reported as organized to erect a cotton mill.

Natchitoches—Ice Factory, &c.—The stock company lately mentioned as being organized to erect an ice factory and cold-storage warehouse will be known as the Natchitoches Ice Co., with A. E. Lemos as president, and Adolph Kauffe, secretary. The company has a capital stock of \$10,000, and may also operate bottling works.

New Orleans—Ice Factory.—M. R. Spelman, F. B. Lee, T. P. Wharton and others have incorporated the Union Ice Co., with a capital stock of \$150,000, to erect the ice factory previously mentioned.

Plaquemine—Ice Factory.—The Plaquemine Ice & Cold Storage Co., lately reported as to erect an ice factory, has let contract for same to Morse & Knight.

Shreveport—Hat Factory.—The stock company recently reported as organized to manufacture hats has been incorporated as the Southwestern Hat Manufacturing Co.

St. Joseph—Cotton-seed Oil Mill.—A stock company will, it is stated, be organized to erect a cotton-seed oil mill.

Thibodeaux—Candy Factory.—M. Higginbotham is reported as having established a candy factory.

MARYLAND.

Baltimore—Electric-light Plant.—It is stated that the mayor will recommend to the city council that the city establish an electric-light plant.

Baltimore—Real Estate.—John Hubner, J. M. Coney, E. B. Hunting and others have incorporated the Maryland Real Estate Co. The capital stock is \$150,000.

Baltimore—Barrel Factory.—M. & H. O'Donnell are erecting a barrel factory at the Baltimore Sugar Refinery.

Baltimore—Machine Works.—The Ryan-McDonald Manufacturing Co., of Waterloo, N. Y., will remove its machine works to Curtis Bay, near Baltimore, and incorporate a \$100,000 stock company to operate them. A building 70x350 feet is to be erected.

Brightwood, D. C.—Electric-light Plant.—An electric-light dynamo and a gas machine are to be put in the building mentioned elsewhere in this issue as to be erected by J. E. Moses.

Conowingo—Sulphite Mill.—Rowland Barrett, of Cecil county, is reported as having received contract for erecting a sulphite mill for the Susquehanna Water Power & Paper Co.

Pocomoke City—Flour Mill.—R. M. and T. F. Stevenson will remodel their flour mill, lately mentioned, to the roller system.*

Woodberry—Iron Foundry.—The Robert Poole & Son Co. is adding an erection shop to its iron foundry.

MISSISSIPPI.

Corinth—Handle Factory.—A. Reitz will probably establish a broom handle factory.

Greenville—Bridge.—A bridge will, it is stated, be built over Little Trail Lake.

Greenwood—Saw Mill.—The saw mill of Gid. Montjoy, reported in this issue as burned, will, it is stated, be rebuilt.

Grenada—Spoke and Hub Factory, &c.—The J. W. Morgan Co., of Chicago, Ill., is investigating with a view of establishing a spoke, hub, &c., factory in Grenada.

Itta Bena—Saw Mill, &c.—Daniel Dodds & Co., of Rockport, Ind., have, it is stated, purchased a tract of timber land near Itta Bena, and will move their saw mill to that place.

Jackson—Broom Factory.—E. Virden, Luther Manship, L. J. Martin and others have organized the Capital City Broom Manufacturing Co. with a capital stock of \$10,000.

Tupelo—Chair Factory.—Hoyle & Wilson are reported as having put new machinery in their chair factory.

Vicksburg—Bagging Factory.—John P. Richardson has, it is stated, made a proposition for the establishment of a bagging factory.

NORTH CAROLINA.

Burlington—Cotton Mill.—The Aurora Cotton Mills is enlarging its cotton mill and putting in new machinery.

Charlotte—Artesian Well.—W. N. Failing, of Binghamton, N. Y., will organize a stock company to sink an artesian well, as lately stated.

Durham—Cigar Factory.—The Mallory Durham Cheroot Co. has been organized with J. T. Mallory, president, and E. C. Hackney, secretary. The capital stock is \$30,000.

Elizabeth City—Ice Factory.—The Elizabeth City Crystal Ice Co., lately reported as organized, will erect an ice factory.

Gibsonville—Lumber Mill.—The Eureka Lumber Co. will erect a lumber mill, as recently reported, and has let contract for same; also a flour and corn mill.

Gordon (P. O. at Wilkesborough)—Brick Works.—Brick works are being built by three different companies at the new town of Gordon. George Finley can give particulars.

Madison—Silver Mine.—It is reported that a silver mine will be developed in Rockingham county.

Oxford—Titanium Mine.—A titanium mine will probably be developed near Oxford.

Reidsville—Grist Mill and Box Factory.—J. H. Walker & Co. are rebuilding their grist mill and box factory, as stated in last issue.

Wilkesborough—Sash, Door and Blind Factory.—The Wilkesborough Manufacturing Co. will probably enlarge its sash, door and blind factory.

Wilkesborough—Saw Mill, etc.—G. Vine is erecting a saw mill and will probably manufacture furniture in connection with it.

Winston—Land, etc.—The Winston-Salem Land & Investment Co. has been organized with F. M. Simmons, president, and W. A. Blair, secretary. The capital stock is \$250,000.

SOUTH CAROLINA.

Blacksburg—Stove Factory.—A company is reported as being organized to erect a factory for the manufacture of the Joseph Black patent cooking stove.

Bordeaux—Granite Quarry.—J. A. Gilbert is developing a granite quarry.

South Carolina—Land.—A Savannah (Ga.) syndicate is reported as having closed contract for the purchase of a 3,000-acre tract of land known as Hunting Island, on Myr river near Foot Point.

Spartanburg—Real Estate.—The Spartanburg Real Estate Co., recently reported, will have a capital stock of \$30,000.

TENNESSEE.

Athens—Land, &c.—The Athens Town Co. has been incorporated with R. L. Taylor, president; H. T. Sperry, of Hartford, Conn., vice-president, and C. F. Scofield, secretary, for the purpose of establishing industries, improving land, building a new town, &c., at Athens.

Athens—Electric-light Plant.—The Athens Electric Light & Power Co. has received franchise to erect an electric-light plant.

Athens—Water Works.—The Athens Water Supply Co. is reported as to extend its water works.

Athens—Yarn Factory.—J. L. Young is investigating with a view to establish a yarn factory. The Athens Mining & Manufacturing Co. can give information.

Bluff City—Medicine Factory.—The medicine company mentioned in last issue has been organized, as stated, and will be known as the Wholesale Drug Co., to manufacture drugs, &c.

Bolivar—Stave Factory.—The Wallace Stave Co. has, it is stated, established the stave factory mentioned in last issue.

Chattanooga—Box Factory.—William Tuxworth, of Reed City, Mich., is considering the establishment of a box factory in Chattanooga.

Chattanooga—Land.—The Henderson Land & Improvement Co. has been incorporated by D. P. and R. W. Henderson, B. C. Lisle and others to improve land.

Dunlap—Coal and Iron Mines.—C. D. Clark, F. V. Brown, J. H. Hoffecker, O. J. Sheridan and others have incorporated the Dunlap Coal & Iron Co. The company owns 14,000 acres of coal and 6,000 acres of iron lands, and will, it is stated, develop at once.

Iron City—Iron Mines.—Bruce Fagan will, it is stated, develop iron mines.

Iron City—Lumber and Planing Mill.—The R. F. Porch Manufacturing Co. is reported as improving its lumber and planing mill.

Jasper—Ice Factory.—An \$18,000 stock company has, it is stated, been organized to erect an ice factory.

Jasper—Water Works.—A stock company is being organized to construct water works.

Jasper—Coal and Iron Lands.—The Jasper City Land & Mining Co. has, it is stated, purchased 1,500 acres of land near Jasper and will improve it; also large tracts of coal and iron land which it will develop.

Jasper—Shoe Factory.—Negotiations are pending for the location of a shoe factory. The Jasper City Land & Mining Co. can give information.

Jasper—Furniture Factory.—It is stated that arrangements have been made for the establishment of a furniture factory. The Jasper City Land & Mining Co. can give information.

Jellico—Ice Factory.—It is stated that the London & New York Land Co. has contracted with parties for the erection of the ice factory lately mentioned.

Johnson City—Flour Mill.—Brown & Biddle, of Laysburg, Pa., are erecting the roller flour mill lately mentioned. It will have a capacity of 125 barrels per day.

Lenoirs—Furniture Factory.—John T. Bon, of Syracuse, N. Y., has, it is stated, secured site and will erect a furniture factory.

Mossy Creek—Barrel and Chair Factory.—J. W. Newell contemplates establishing a barrel and chair factory.*

Mossy Creek—Foundry and Machine Shop.—The Mossy Creek Foundry & Machine Co. will put in additional machinery.

Rockwood—Steel Plant.—It is stated that the Roane Iron Co. will construct a mammoth basic steel plant.

Sherman Heights—Factory.—A factory will, it is stated, be erected on the Anderson tract, 15 acres of same having been purchased for a site.

Somerville—Artesian Well.—Thomas B. Yancey, mayor, will receive bids for the sinking of an artesian well.

Sweet Water—Slate and Marble Quarries.—J. H. Warner and D. H. Crudup will, as reported in last issue, develop the Abrams Creek slate and marble property, and probably build a slate mill.

Unicoi County—New Town, Boiler and Engine Works, &c.—It is stated that C. S. Taylor, C. A. Haas and others, of Chicago, Ill., have secured over 15,000 acres of mineral and town lands in Unicoi county, and will build a new town to be called Unicoi. A boiler and engine works is reported as to be established.

TEXAS.

Austin—Dam, &c.—Contract for constructing the dam across the Colorado river and the hydraulic canal near Austin, previously mentioned, has been awarded to Bernard Corrigan, of Kansas City, Mo., at \$591,150.

Belton—Electric-light Plant.—The Belton Electric Light Co. is reported as putting in an additional dynamo.

Corsicana—Soap Factory.—A soap factory is reported as having been established.

Dallas—Artesian Well.—Webster & Wood are reported as to sink an artesian well on Caruth Heights.

Eagle Pass—Coal Mines.—The Eagle Pass Fuel, Light & Water Co. will, it is stated, develop 150 acres of coal land which they have optioned.

Flatonia—Water Works.—The water works lately mentioned will probably be constructed.

Fort Worth—Iron Works.—The Moore Iron Works, previously reported as incorporated, operates the Fort Worth stove foundry, and is putting in new machinery and making other improvements. The company has D. F. White as president; J. F. Moore as vice-president, and W. Z. Manchester, secretary.

Fort Worth—Tent Factory.—A tent factory will, it is reported, be erected.

Gainesville—Water Works.—The Gainesville Water Co. will extend its water works, as stated recently, and put in new machinery.

Galveston—Phonograph Appliance Factory.—A \$25,000 stock company is reported as organized to manufacture phonograph appliances.

Gordon—Stone-sawing Mill.—A stone-sawing mill is reported as being erected near Gordon.

Hallettsville—Water Works.—The water works contract, reported in last issue, was let at \$15,465.

Henrietta—Broom Factory.—A broom factory will, it is stated, be established.

Houston—New Town, &c.—S. Taliaferro and others will organize a stock company to lay off and incorporate the new town of South Houston, lately mentioned. The construction of water works, drainage system, electric-light plant and other improvements are proposed.

Houston—Publishing.—The Echo Printing Co. has been incorporated with a capital stock of \$10,000.

Laredo—Irrigating Works.—The North Laredo Land, Immigration & Water Co. is reported as constructing irrigating works.

San Antonio—Shoe Factory.—H. B. Bailey, of Dover, N. H., has proposed to organize a stock company to erect a shoe factory.

Sherman—Improvements.—The city will issue \$30,000 of bonds for bridge, road and street improvements.

Terrell—Cotton-seed Oil Mill.—A cotton-seed oil mill will probably be erected.

Texarkana—Woolen Mill.—Joseph Hall has, it is stated, made a proposition to organize a stock company for the purpose of erecting a woolen mill.

Townsen Mills—Cotton Gin.—A cotton gin has, it is stated, been erected.

Tyler—Artesian and Gas Wells.—E. N. Orkney will, it is stated, sink artesian and gas wells in the Rowland addition.

Waco—Artesian Well.—Thomas Padgett will sink an artesian well.

Weatherford.—The Weatherford Park & Improvement Co. has been incorporated with a capital stock of \$20,000.

Whitesborough—Artesian Well.—The Whitesborough Artesian Well, Water, Coal & Gas Co. has been incorporated to sink the artesian well lately reported.

VIRGINIA.

Alexandria—Brewery.—The Robert Portner Brewing Co. will, it is reported, enlarge its brewery.

Basic City—Furniture Factory.—It is stated that the Rushville School Furniture Co., of Rushville, Ind., will establish in Basic City the school furniture factory mentioned in last issue. The Basic City Mining, Manufacturing & Land Co. can give information.

Bedford City—Land.—Curtis & Co. have, it is stated, purchased 30 acres of the Edmund Sale estate for \$25,000 and will improve same.

Bedford City—Woodworking Factory.—A syndicate is reported as having purchased the woodworking factory of J. P. Pettyjohn, of Lynchburg, and will, it is stated, establish a \$50,000 branch in Bedford City.

Blackstone—Flour Mill.—J. M. Harris and others have completed the erection of the flour mill reported in last issue.

Buckingham County—Iron Mines, etc.—F. T. Shaw, J. H. Billingsale, J. L. Reesnyder and others, of Frederick, Md., have, it is stated, purchased 1,000 acres of timber and iron ore land in Buckingham county.

Covington—Foundry and Machine Shop, etc.—Frank Tyman, E. M. Nettleton, W. A. Rinehardt and others have secured site and will, it is stated, erect a foundry and machine shop and a steam tannery.

Eagle Rock—Water Works, Electric-light Plant, etc.—T. B. Jackson, of Cincinnati, Ohio, is president, and G. K. Anderson, secretary, of the Craig Valley Co., reported in last issue.

Fincastle—Iron Lands.—W. P. Smith, of Hollidaysburg, Pa., is reported as having purchased 200 acres of iron ore lands from the R. M. St. Clair estate for \$14,000.

Glasgow—Car Works.—It is stated that the Rockbridge Co. has contracted with Chicago (Ill.) parties for the removal of a steel car works plant to Glasgow. Site has been selected.

Glasgow—Powder Mill and Cartridge Factory.—A powder mill and cartridge factory is reported as to be established. The Rockbridge Co. can give information.

Iron Gate—Horse shoe Factory, etc.—It is stated that a nail, a horse-shoe and a cotton-tie factory

will be established. The Iron Gate Land & Improvement Co. can give particulars.

Ivanhoe—Stove Works, etc.—J. H. Gill, of Raleigh, N. C., will establish in Ivanhoe the iron foundry, machine shops and stove works lately mentioned. Work has been commenced on the buildings.

Lexington.—The Lexington & Stanley Investment Co. has been organized with W. F. Pierson, president, and W. C. Gilmore, secretary.

Luray—Woodworking Factory.—The Artistic Woodworking Co., with \$150,000 capital stock, will, it is reported, erect a fancy woodworking factory.

Luray—Hose Factory.—A company is negotiating, it is stated, for the location of a hose factory. The Valley Land & Improvement Co. can give information.

Lynchburg—Corn Mill and Elevator.—S. C. Hunt & Son will erect a 100,000-bushel grain elevator at their flour mill, as recently stated; also a corn mill with a daily capacity of 1,000 bushels.

Lynchburgh—Plant-setter Factory, &c.—McKay Plant-Setter Manufacturing Co. has been organized with W. H. Wren, president; H. E. McWann, vice-president, and James D. Tate, secretary, to erect a factory for the manufacture of the McKay patent plant-setter. The company will, it is stated, establish malleable iron works in connection with same, and will have a capital stock of \$500,000.

Manchester—Ice Factory.—The Richmond Ice Co. is reported as to erect an ice factory.

Max Meadows—Rolling Mill, etc.—It is stated that C. M. Clark, Mr. Seaman, of Wilmington, Del., and others will build a rolling mill and horse-shoe works at Max Meadows.

Max Meadows—Sash and Blind Factory.—J. E. Offner, of Roanoke, will, it is stated, erect a sash and blind factory in Max Meadows and organize the Max Meadows Manufacturing Co. to operate it.

Max Meadows—Electric-light Plant and Water Works.—A water works and sewerage system is reported as to be constructed and an electric-light plant as to be erected. The Max Meadows Land & Improvement Co. can give information.

Max Meadows—Iron Mines.—The Consolidated Mining Co. is reported as developing iron mines at Clark Summit.

Max Meadows—Boiler and Engine Works and Machine Shops.—Contract is reported as having been closed for the erection of boiler and engine works and machine shops. The Max Meadows Land & Improvement Co. can give information.

Meadow View—Sash, Door and Blind Factory, etc.—J. J. Giesler contemplates the erection of a planing mill and sash, door and blind factory.*

New Castle—Dyeing Establishment, Laundry, etc.—A. A. Spitzer and others, of Richmond, will start a steam dyeing and cleaning establishment, as lately stated, also a steam laundry.*

New Castle—Brick-yard.—J. M. E. Cripps will start a steam brick-yard.*

New Castle—Mineral and Timber Lands.—A. E. Humphreys and Frank Woodrum, of New Castle, and Robert Ballard, of Cincinnati, Ohio, have purchased, it is reported, 100,000 acres of mineral and timber lands in and around New Castle.

Norfolk—Land Improvement.—Mr. Pollard, G. R. Dunn and N. L. Reynolds are reported as having purchased the Colonna tract of land for about \$150,000 and as to organize a stock company to improve it.

Norfolk—New Town.—The Jacksondale Development Co. has been organized with a capital stock of \$50,000. This company is reported as having optioned 678 acres of land at Jackson Station, between Norfolk and Virginia Beach, and as to build a new town to be called Jacksondale. The Norfolk & Virginia Beach Railroad Co. is reported as to erect repair shops at Jacksondale.

Norfolk—Real Estate, etc.—The National Development Co. has been incorporated with G. T. Scott, of Ironton, Ohio, as president, and W. A. Wrenn, secretary, to deal in real estate, etc. The capital stock is to be \$300,000.

Onancock—Varnish Factory.—B. T. Parker, R. P. Curtis, J. E. Scott and others have organized a stock company and will, it is stated, manufacture a patent carriage-top dressing.

Richmond—Flour Mill.—The Southern Flour Co. has been incorporated with G. D. Rand as president; W. M. Lewis, vice-president, and J. S. Lear, secretary, to manufacture flour, etc. The capital stock is \$100,000.

Richmond—Belting Factory, etc.—The Hydraulic Packing Co., having a capital stock of \$5,000, has been incorporated with E. H. Garcin, president; S. P. Mayo, vice-president, and H. A. Williams, secretary. It will manufacture and deal in belting and machinery supplies.

Richmond—Real Estate.—The Virginia Investment Co. has been incorporated with W. H. Sands, president, and W. D. Rice, secretary, for the purpose of dealing in real estate. The capital stock is to be \$100,000.

Rio—Grist and Saw Mill.—A grist and a saw mill will probably be erected.

Rio-Flour Mills.—The Rio Mills property is reported as having been sold for \$6,500, and the purchasers will, it is stated, organize a \$15,000 stock company to be known as the Rio Milling & Manufacturing Co., with J. R. Wingfield, president, and J. O. Bowcock, secretary, to change the mill to the roller system and operate it.

Roanoke Real Estate.—The East Roanoke Loan, Trust & Investment Co. has been organized with a capital stock of \$80,000 to deal in real estate, &c.

Roanoke—Land.—The Mechanics' Mutual & Investment Co. has been incorporated with R. D. Downy, president; J. H. Featherstone, vice-president, and E. C. Welsh, secretary.

Roanoke.—The Mechanics' Investment Co. has been incorporated with G. R. Henderson, president; G. J. Worthington, vice-president, and A. L. Tremain, secretary.

Roanoke—Ice Factory and Cold-storage Plant. Herman Creuger is president, and J. R. Shick, secretary, of the Virginia Packing House & Cold Storage Co., previously reported.

Roanoke—Sewerage System.—Rudolph Hering, of New York, is said to be preparing plans for the construction of a sewerage system.

Salem—Tinworking Factory.—The Salem Hardware Co. is reported as establishing a tinworking factory.

Salem—Electric-light Plant.—The city is receiving bids for the erection of an electric-light plant. The mayor can be addressed.

Scottsville—Timber Land.—J. R. Williams & Bro., of Arvon, are reported as having sold to a Washington syndicate 1,000 acres of timber land for \$10,000.

South Boston—Land.—Edward L. Evans is president, and J. W. Traver, secretary, of the East End Land Co., previously reported. The capital stock is \$14,000.

Stanley—Carriage Factory, etc.—Propositions have been made for the establishment of a carriage factory, a \$100,000 piano and organ factory, a factory for the manufacture of cupolas and alleys, a shoe factory, a carriage and hardware factory, and a factory for the manufacture of pulleys and belt rests. The Stanley Land & Furnace Co. can give information.

Staunton—Flour Mill.—Witz & Holt have purchased site and will erect, it is reported, a roller flour mill.

Waynesboro—Woolworking Factory.—As stated in last issue, the Bridgeton Ornamental Wood Works, of Bridgeton, N. J., will be moved to Waynesboro.

Wytheville.—Woolen Mill.—The company previously reported as organized to move the Krenning Woolen Mills, of Celina, Ohio, to Wytheville, has a capital stock of \$30,000, and is known as the Wytheville Woolen & Knitting Co. The buildings are now under construction.

WEST VIRGINIA.

Belmont—Oil Wells.—The Duncan Oil Co. is reported as sinking four new oil wells.

Belmont—Oil Wells.—The Brown Oil Co. is reported as sinking two new oil wells.

Charleston—Electric Plant.—The South Charleston Improvement Co. will establish an electric plant.

Charleston—Mineral Lands, &c.—The Charleston Construction Co. has been organized to develop mineral lands, sink oil and gas wells, etc.

Charlestown—Brick and Tile Works.—William Null, G. Brown and George Porterfield organized the Charlestown Brick & Tile Co., reported in last issue (under Charleston), and propose to build brick and tile works with 25,000 capacity per day.

Elkgarden—Coke Ovens and Coal Mines.—The Davis Coal & Coke Co., of Davis, are, it is stated, developing their No. 5 mine at Elkgarden and building coke ovens.

Fairmont—Woodworking Factory.—U. A. Clayton & Co. will rebuild their woodworking factory recently reported as burned.

Huntington—Mineral Lands, &c.—J. L. Caldwell, G. F. Miller, J. N. Camden and others are the incorporators of the Huntington & Kenova Land Co. reported in last issue. It has for its purpose the development of mineral lands, operating of car works, &c. The capital stock is \$10,000.

Kingwood—Electric-light Plant.—The Edison Electric Light Co. has made a proposition to erect the electric-light plant mentioned recently.

Mannington—Woolen Mill.—The Mannington Woolen Mill Co. has been incorporated with a capital stock of \$4,500 to manufacture wool, cotton, &c.

Mountain Lake—Timber Land.—J. Hampton Hoge, of Christiansburg, has purchased through A. E. Humphrey, of Charleston, 103,000 acres of timber land in Craig and Giles counties, known as the Mountain Lake property, for \$250,000.

St. Mary's—Coal Mines.—A stock company is reported as having been organized to develop coal mines in Pleasants county.

Webster—Iron and Coal Mines.—A. L. Rice, C. B. Hart, A. Reymann and others have incorpo-

rated the Webster Iron & Coal Co. The capital stock is to be \$1,000,000.

West Liberty—Wire Fence Factory.—A stock company is reported as having been organized to manufacture a plaited wire fence.

Wheeling—Garbage Crematory.—M. V. Smith, of Pittsburgh, Pa., has made the city a proposition to erect another garbage crematory.

BURNED.

Alexandria County, Va.—The brick works of W. T. Walker; estimated loss \$15,000.

Cumberland, Md.—The fire-brick works of Jas. Gardner, at Ellersville; estimated loss \$30,000.

Dunham, Ala.—The saw mill of the Dunham Lumber Co.; loss about \$20,000.

Greenwood, Miss.—Gid. Montjoy's saw and planing mill; loss \$4,000.

Havre de Grace, Md.—L. T. Ranstead's saw mill at Oakington, near Havre de Grace.

Louisville, Ky.—The box factory and planing mill of W. N. Barr; estimated loss \$20,000.

Ludlow, Ky.—The machine shops of the Cincinnati Southern Railroad Co. (office, Cincinnati, O.); estimated loss \$40,000.

Millen, Ga.—The cotton gin of J. H. Daniel.

Nashville, Tenn.—The wagon factory of the Cherry & Morrow Manufacturing Co.

Pemberton, Fla.—The Pemberton Hotel; loss about \$6,000.

Purdy, Tenn.—William Gurley's saw mill was damaged by an explosion.

Sardis, Miss.—The grist mill and cotton gin of A. Johnson & Co.

Viola, Ark.—The distillery of Stone & Co.

Wilmington, N. C.—The turpentine still of W. A. Martin & Co.

Building Notes.

Alexandria, La.—A branch of the New South Building & Loan Association has been organized with a capital stock of \$50,000.

Americus, Ga.—G. L. Norrman, of Atlanta, has prepared plans for the erection of the Americus Athletic Club building, previously mentioned. It will cost about \$5,000.

Anniston, Ala.—W. H. Zinn has let contract for the erection of a store building, and J. D. Thompson intends erecting 2 store buildings.

Anniston, Ala.—W. H. Williams is reported as to erect a number of brick buildings.

Ashville, Ala.—Hotel.—A depot and hotel is to be built as soon as the Asheville Railroad is completed, in about 20 or 30 days.

Baltimore, Md.—F. E. Davis has prepared plans for the enlargement of the Fifth Regiment Armory at a cost of about \$60,000.

Bedford City, Va.—J. M. Berry is reported as to build a residence to cost \$12,000.

Birmingham, Ala.—Woodson & Clark have secured contract for the erection of a four-story brick building for W. A. Walker to cost \$50,000.

Birmingham, Ala.—Permits have been granted to the Thompson-Hutchinson Building Co. for the erection of a three-story brick building on Second avenue to cost \$8,000; another on Twenty-second street to cost \$10,000; a \$5,000 brick building on avenue A, and a three-story building on Eighth avenue to cost \$15,000.

Brightwood, D. C.—J. C. Johnson, of Washington, has prepared plans for the erection of a three-story restaurant building, 42x60 feet, for J. E. Moses. It is to have steam heating, gas machine, electric-light dynamo, etc.

Brunswick, Ga.—The congregation of the First Baptist Church contemplates erecting a new edifice. Rev. E. Z. F. Golden can give particulars.

Charleston, S. C.—The Acme Building & Loan Association is to be organized by W. G. Harvey, W. W. Simons, K. S. Tupper and others.

Charlestown, W. Va.—The Charlestown Mining, Manufacturing & Improvement Co. has offered inducements to the Winchester District Conference of the Methodist Episcopal Church South to erect a school building in Charlestown.

Charlotte, N. C.—William Overcash will build a residence.

Charlotte, N. C.—P. D. Walker, E. M. Andrews and M. C. Mayer are reported as to each erect a residence on the Hall property.

Chattanooga, Tenn.—McDaniel & Stone are reported as to erect a store building to cost \$13,000.

Chattanooga, Tenn.—The Chamber of Commerce is reported as to erect a building to cost about \$100,000.

Chattanooga, Tenn.—W. H. Floyd will prepare plans for the erection of a hospital building for Dr. E. E. Kerr.

Clifton Forge, Va.—George W. Swann is reported as to erect 2 three-story brick buildings 45x20 feet each.

Dawson, Ga.—A new courthouse to cost \$30,000 will be built. The county clerk can give particulars.

Dayton, Tenn.—J. T. Howard, R. L. Thomson and G. W. Ault will each build a residence.

Fairfield, Texas.—A new courthouse to cost \$30,000 is proposed.

Floyd, Texas.—Hotel.—It is stated that a hotel will be built.

Glasgow, Va.—A new Presbyterian church has been organized, and the members will erect a church building. Rev. C. D. Waller can give information.

Hansford, Texas.—Contract for the erection of a courthouse to cost \$13,000 has been let.

Helena, Ark.—The Planters' Compress & Storage Co. will, it is stated, build a warehouse and additional cotton sheds and platforms.

Homer, Ga.—A building is being erected for the Hickory Level Academy.

Huntington, W. Va.—The Ohio River Railroad Co. (office, Parkersburg) is reported as to build an \$8,000 depot.

Hot Springs, Ark.—F. Schicker will erect a two-story brick building, 35x65 feet, to cost \$6,000.

Jasper, Tenn.—Hotel.—A stock company is being organized to build a hotel.

Johnson City, Tenn.—Hotel.—The Roan Mountain Hotel & Improvement Co. has been organized.

Johnson City, Tenn.—General John F. Wilder will, it is stated, build a \$30,000 residence in the Carnegie addition.

Little Rock, Ark.—A new Cumberland Presbyterian college to cost \$50,000 is reported as to be erected. Rev. S. H. Buchanan can give information.

Little Rock, Ark.—T. F. Howell and P. C. Dooley will each build a residence.

Little Rock, Ark.—C. T. Abeles is reported as to erect 2 two-story residences.

Louisville, Ky.—The members of the Breckenridge Street German Methodist Episcopal Church contemplate building a new edifice. Rev. Mr. Bechtold can give particulars.

Louisville, Ky.—Harris, Britton & Dean have purchased a building and will remodel it for theatre purposes at a cost of \$50,000.

Ludlow, Ky.—J. H. Boll, of Cincinnati, Ohio, has prepared plans for the erection of a brick schoolhouse, 80x32 feet, to cost \$12,000.

Middlesborough, Ky.—J. B. Ryan has prepared plans and has contract for the erection of a brick building 50x100 feet for J. B. Carey, C. B. Wisner and others to cost \$12,000.

Midland, Ga.—A schoolhouse will probably be built.

Morristown, Tenn.—Crapsey & Brown, of Cincinnati, Ohio, have prepared plans for a college building for the Methodist Episcopal church to cost \$25,000.

Morristown, Tenn.—D. Willing & Son have secured contract at \$7,000 for the erection of the Merchants' Bank building, previously reported.

Morgantown, W. Va.—S. C. White will erect a two-story building 80x65 feet.

New Orleans, La.—J. R. Quirk has secured contract at \$91,500, for the erection of the Masonic Grand Lodge building, recently reported.

Pell City, Ala.—Hotel.—Contract has been let for the erection of a hotel to cost \$40,000. The Pell City Iron & Land Co. can give information.

Pell City, Ala.—It is stated that 150 houses will be erected. The Pell City Iron & Land Co. can give information.

Pine Bluff, Ark.—A new jail to cost \$10,000 is reported as to be erected.

Quannah, Texas.—A St. Louis (Mo.) company has secured contract at \$6,600 for the erection of a new jail.

Roanoke, Va.—The Citizens' Bank and Engleby Bros. have broken ground for a three-story double building 44x100 feet, to cost \$30,000.

Scottsboro, Ala.—It is stated that the Memphis & Charleston Railroad Co. (office, Memphis, Tenn.) will erect a new depot.

Sherman, Texas.—The Houston & Texas Central Railroad Co. (office, Houston), Texas & Pacific Railroad Co. (office, Dallas), St. Louis, Arkansas & Texas Railroad Co. (office, St. Louis, Mo.), and the Missouri, Kansas & Texas Railroad Co. (office, Parsons, Kan.) will probably build a union depot.

Waco, Texas.—Thomas Padgett will build a natatorium, as lately stated.

Washington, D. C.—Hotel.—George W. Cochran will build a new hotel to cost \$131,000.

Washington, D. C.—E. J. Hannan will erect 2 three-story dwellings, 20x75 feet, to cost \$12,000—electric bells and steam heating will be used; W. H. C. Thompson, 2 two-story brick dwellings to cost \$6,000; Frisbie & Simpson, 2 three-story houses to cost \$6,000; S. C. Cissel, a three-story dwelling, 20x86 feet, to cost \$6,500; D. G. Groff, 5 three-story dwellings to cost \$12,000; J. J. Sheehy, a three-story dwelling, 22x33 feet, to cost \$10,000; Hon. E. D. Chadwick, a two-story cottage, 60x40 feet, to cost \$15,000; S. Johnson, a three-story dwelling to cost \$15,000; H. E. Fel-luw, a three-story brick dwelling to cost \$6,750;

R. L. Elliott, a three-story brick store and dwelling to cost \$8,000; B. H. Warner, a two-story brick addition, 18x28 feet, to cost \$6,000; W. L. Hughes, brick dwelling to cost \$5,000; John Moran, brick dwelling to cost \$10,000; Donn & Harris, 2 three-story dwellings 22x40 feet each to cost \$15,000; W. M. Poindexter, a two-story dwelling 25x66 feet to cost \$10,000; G. W. Talbert, 5 two-story dwellings to cost \$15,000; Wm. Ryan, a four-story store and dwelling to cost \$5,000; T. J. King, a three-story dwelling to cost \$14,000; Charles Gessford, 11 two-story houses to cost \$32,600; L. H. Emmert, a three-story dwelling, 25x80 feet, to cost \$25,000, electric bells and hot-water heating will be used, and T. A. Harding, a two-story dwelling 33x48 feet to cost \$5,500.

Wheeling, W. Va.—W. C. Chapman contemplates building a residence.

Winston, N. C.—Glenn Brown, of Washington, D. C., has prepared plans for the erection of a two-story house for W. B. Carter to cost \$6,000.

BALTIMORE is the natural, commercial and financial headquarters of the South. From the beginning the South has looked to Baltimore as its business capital and clearing house. But for some railroad manipulation, terrible in its consequences, and the indifference and extreme conservatism on the part of Baltimore business men, this city would now have nearer 1,000,000 than 500,000 people as the result of its identification with the South. Latterly Baltimore has experienced an awakening and is now reaching out toward the South. Business men and bankers are moving for closer relations and capitalists are seeking investments in this favored section. Among the banks the National Bank of Commerce has taken the initiative, by inaugurating here a policy which has enabled New York banks to secure a large share of Southern business. The Bank of Commerce announces that it will pay interest on daily balances of outside banks. This will remove an inequality as between Baltimore and New York which Southern bankers have heretofore assigned as a reason for sending their business North.

THE American Society of Mechanical Engineers, an influential and most useful organization, will hold its annual meeting November 14th in Richmond, Va. The selection of any city for the annual meeting of this society is a compliment to it, and has been so accepted by other favored places. That Richmond appreciates this fact is evident from the preliminary preparations her business men are now making to entertain their distinguished guests. In a broader sense, Richmond, in doing this, emphatically recognizes and indorses the ideas that have made this decade the beginning of an era of industrial progress without a parallel in history, in which the South, by virtue of her natural resources, has unconsciously, but none the less surely, become the leader. Richmond is to be congratulated because of her coming guests, and we believe that after their departure she will, as their hospitable entertainer, have merited still heartier compliments.

If you wish to keep posted on the progress of the South, read the MANUFACTURERS' RECORD. Price \$4.00 a year.

SUFFOLK, VIRGINIA.

The Manufacturing City of Eastern Virginia.

THE RAILROAD KEY TO THE COAST.

The First Great Auction Sale of Lots ever held.

500 Business and Residence Lots. 500

Excursion Rates from All Points. The Railroad Fare of Every Purchaser of a Lot will be returned.

20 INDUSTRIES EMPLOYING 2,500 HANDS

Already in operation. Others about closed, and still more being negotiated for.

These Lots present an absolutely Safe Investment and a certain opportunity to double your money.

Wednesday, Nov. 19th, 1890,
THE EAST SUFFOLK LAND CO.

Will offer FOR SALE its first addition to the prosperous town of SUFFOLK, VIRGINIA.

The most successful auctioneers in the South, SMITH & PANNILL, have been employed to conduct this sale.

Lots 50x150 feet, fronting on well-graded streets 60 feet wide, with 20 feet alleys. The Atlantic & Danville, Norfolk & Carolina, Seaboard & Roanoke, Norfolk & Western, and Suffolk & Carolina Railways, representing more than 238,000 miles of railway, and the Nansemond river, which is navigable for large vessels, are immediately accessible to these lots.

The policy of THE EAST SUFFOLK LAND CO. is to make every one of its lots desirable by locating industries in different portions of its property, to which end it holds in its treasury more than \$200,000.

A payment of \$100 on account of the cash payment will be required from purchasers on the day of sale, NOVEMBER 19th, 1890, or on receipt of a contract of sale, to be given prior to execution of deeds, which will be prepared as rapidly as possible.

TERMS.—One-third cash, balance in one and two years, evidenced by negotiable notes bearing six per cent. interest from date of sale. The stock of the Company will be received in payment of the lots at fifty per cent. premium.

FOR PLATS, PROSPECTUSES AND FURTHER INFORMATION, APPLY TO

CHAS. H. JONES, Jr., Secretary, Suffolk, Va.

Or SMITH & PANNILL, Auctioneers, Norfolk, Va.

DALLAS AS AN EDUCATIONAL CENTER.

Numerous Advantages—General Notes About This Giant of Texas Plains.

DALLAS, TEXAS, Oct. 16, 1890.

Editor Manufacturers' Record:

Dallas presents an unusual scene of activity now on account of the opening of the Texas State Fair and Dallas Exposition, which unquestionably represents the greatest industrial display ever made in the Southwest.

The indications all point to a continued rapid growth and expansion of the city in population and industrial enterprises. The bank clearings last week reached \$3,153,254, an increase of 45 per cent. over the business of the corresponding week last year. The postmaster's financial statement for the quarter ending September 30 shows the postal receipts for that quarter to have been \$27,419.15, and after deducting the expenses of the office, including the salaries of railway postal clerks, the the surplus remitted to the department was \$17,840.96. This statement reveals in this department an increase of 20 per cent. over the corresponding quarter in 1889. The money order department gave an increase of 40 per cent., the following being the statement:

Cash on hand June 30.....	\$ 615 82
3,950 domestic orders issued.....	46,704 17
2,028 postal notes issued.....	3,538 98
230 international orders issued.....	3,795 19
Fees on same.....	473 24
Auditors circulars.....	16 88
Postmaster remittances.....	382,064 67
Total receipts.....	\$439,227 95
10,710 domestic orders paid.....	\$132,149 80
5,025 postal notes paid.....	8,435 80
39 international orders paid.....	1,355 31
51 domestic orders paid.....	526 82
Deposited to credit of U. S. Treasurer.....	294,500 00
Balance cash on hand Sept. 30, 1890.....	262 22

Total disbursements..... \$437,229 95

Dallas promises to become an important educational center. Her free school system is one of the best organized and most admirably conducted in the South. There is a fine Episcopal school here for young ladies; Catholic schools and other sectarian educational institutions are in contemplation. The latest projected is the Southern Female University, a school for young ladies under the auspices of the Christian Church. It will be a school of high grades and fine arts, where every facility will be provided for thorough research in every department. The site for the buildings covers ten acres of ground, and fifteen acres additional have been set apart for a permanent fund. The location is one of the prettiest about Dallas, being part of the Philadelphia place association purchase, just north of the city limits and just west of the great Exall lake, which is nearing completion. The buildings will be erected of fine Pecos stone and Dallas pressed brick, forming a pleasing combination between red and straw color. The buildings will have two stories and a basement, the departure from the usual number of stories being a consideration in favor of the comfort and health of the young ladies. The dimensions of the main building will be 97 feet front by 74 feet deep. This comprises the chapel, class-rooms, parlor and libraries. The other two buildings, each 50x84 feet, will comprise the private apartments of students and teachers.

A few gentlemen interested in the enterprise have subscribed between \$50,000 and \$60,000, and the projectors hope to increase this to \$200,000.

Neither extreme heat or cold interfere with scholastic seasons in this section of the country. The temperature is always moderate, and this is considered a great advantage in locating schools. A health-giving climate possessing peculiar advantages, a metropolitan people and the best society, are a few considerations which will combine to gratify the ambitious city of

Dallas in becoming an educational center of no small note.

The latest project of a public nature started is a movement looking towards the erection of a fine board of trade or commercial building. The enterprise is yet in an embryo state, having been referred to the directors of the board of trade, but there is a prevailing sentiment that the time is ripe for the success of the movement.

Outside capital continues to find its way to Dallas. The chief representative of a large Northwestern building and loan association informs your reporter that after spending ten days in the city and making a thorough investigation of the securities offered, he has decided to call off further loans in Kansas and Nebraska and center investments in this city. Out of \$200,000 recently placed here he stated that every cent has been paid promptly as it fell due, and he has experienced no trouble whatever in handling money here. A few years ago, this gentleman observed, Texas securities were not wanted in the North and East, while now they are sought after, and they stand among the best offered. Dallas, he thought, has the brightest future of any city in the United States, her present population considered.

Activity at Tredegar.

A dispatch from Tredegar, Ala., (or as the postoffice authorities still call it, Jacksonville,) to the Birmingham Age-Herald says:

"Property on Francis and Park avenues has advanced 50 per cent. in the last week, and transactions have been very large, over \$250,000 worth having been sold in the past week. There has not been a day this week that less than \$10,000 worth has been sold, and in most sales as much as \$30,000 worth each day, and still there is not much excitement. There has not been one fictitious sale—more than can be said of most places. All sales are made in good faith, and one-third or all cash being paid down.

The grading of Park avenue is about finished, and the work of paving and macadamizing will begin Monday. The material used for macadamizing is found in the mountain a few miles from the town, and is found in quantities that could not be exhausted in paving 100 streets. It is a self-cementing stone, and a street laid with it is practically indestructible."

As the Jacksonville Mining & Manufacturing Co. is not selling any property, having withdrawn all of its property from the market some time ago, these sales are being made by individual holders who have generally doubled their investments since last May. The certainty of the building of the steel plant, the largest enterprise ever established in the South, and many other industries, has created an active demand for property from local and outside people. Tredegar is destined to be one of the foremost industrial cities of the South.

ASHLAND, KY., October 20, 1890.

Editor Manufacturers' Record:

Ground was broken and work commenced in earnest with 50 hands last Thursday, on the foundation of the large steel plant at this place. The contractors say they will have it completed before July 1, 1891, which is the limit under the contract. Mr. J. B. Bradley, treasurer of Empire Gas & Fuel Co., Wellsville, N. Y., and a large stockholder in Van Wirt Gas Co. and others, and Mr. M. D. Teague, of Kansas, general manager Western Gas & Oil Co., made application to the city authorities for permission to lay their mains and supply the city with natural gas which they have been successfully developing in Martin county above here, in the Big Sandy river valley. ASHLAND IMPROVEMENT CO.

MACHINERY WANTED.

If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will thus get all information desired as to prices, etc.

Bakery.—A. A. Spitzer, New Castle, Va., intends to purchase a steam bakery outfit.

Barrel Machinery.—J. W. Newell, Mossy Creek, Tenn., wants wooden barrel machinery.

Bending Rolls.—The Marion Iron Works, Marion, S. C., wants prices on second-hand power bending rolls, 72 to 76 inches between housings, sufficiently strong to bend 3/4-inch steel, full width.

Boiler and Engine.—D. L. Trussell, Carrollton, Ga., wants a 25 or 30 horse-power engine and boiler.

Brick Machine.—J. M. B. Cripps, New Castle, Va., will want a steam brick machine.

Brick Machinery.—H. F. Church, Churchdale, N. C., wants a brick machine for clay and press brick.

Brick Machinery.—The Staunton Terra Cotta & Fire Brick Co., Staunton, Va., will want brick and tile machinery.

Bucket Machinery.—R. T. Crawford, Winnsboro, S. C., wants address of well-bucket manufacturers.

Cars.—The Suffolk Street Railway Co., Suffolk, Va., wants cars for a street railway.

Chair Machinery.—J. W. Newell, Mossy Creek, Tenn., will purchase chair manufacturing machinery.

Crusher.—H. S. Palmer, Chattanooga, Tenn., may want a stone crusher.

Drainage.—S. Taliaferro, Houston, Texas, will soon want bids for the construction of a drainage system in South Houston.

Dyeing Machinery.—A. A. Spitzer, New Castle, Va., intends to purchase steam dyeing and cleaning machinery.

Electrical Railroad.—The Jackson Land & Improvement Co., Jackson, Tenn., desires to correspond with contractors relative to the building of an electrical railroad.

Electric light Plant.—S. Taliaferro, Houston, Texas, will soon want bids for the erection of an electric-light plant in South Houston.

Elevator.—S. P. Mann, Charlottesville, Va., wants an elevator for a hotel.

Engine.—J. M. Greer & Co., Knoxville, Tenn., want to correspond with manufacturers of a 2 horse-power coal engine.

Flour Mill Machinery.—T. F. & R. M. Stevenson, Pocomoke City, Md., want bids on roller flour mill machinery.

Foundry and Machine Shop Machinery.—D. L. Trussell, Carrollton, Ga., wants small lathe, an engine lathe, a lathe with 14 or 16 feet bed, planer, shaper, punch and shear, pipe cutting and threading machine, drill, etc.

Gas Machine.—S. P. Mann, Charlottesville, Va., wants a gas machine for hotel.

Handle and Spoke Machinery.—R. C. Byrd, Norfolk, Va., wants prices on machinery for a hub, spoke and shuttle factory.

Lathe.—The Mossy Creek Foundry & Machine Co., Mossy Creek, Tenn., will want an engine lathe 15x6, 12x5 and 22x10 feet, new or second-hand.

Laundry Machinery.—A. A. Spitzer, New Castle, Va., intends to purchase machinery for a steam laundry.

Locomotive.—The Louisiana Logging Co., Baton Rouge, La., will purchase a light locomotive.

Motor.—S. P. Mann, Charlottesville, Va., wants a 5-ton motor, standard gauge.

Oil Mill Machinery.—J. H. Lawson, Talladega, Ala., wants prices on a complete outfit for a cotton-seed oil mill with a capacity of 8, 10 and 12 tons per day.

Pump.—The Ella Layman Tow Boat Co., Charleston, W. Va., wants to buy a 10 to 12-inch diameter centrifugal pump.

Railroad Equipment.—Frank T. Reynolds, Box 51, Dalton, Ga., wants prices on new and second-hand equipment for a standard-gauge railroad 14 miles long.

Rails, etc.—The Suffolk Street Railway Co., Suffolk, Va., wants rails, spikes, joint plates, etc., for constructing a steel railway.

Rails.—The Louisiana Logging Co., Baton Rouge, La., will purchase a quantity of 22-pound rails.

Shuttle Machinery.—C. Steiner, Greensboro, N. C., wants addresses of manufacturers of shuttle machinery.

Skidders.—The Louisiana Logging Co., Baton Rouge, La., will purchase a steam skidder.

Slate Machinery.—J. H. Warner, Chattanooga, Tenn., will want slate machinery.

Starch Factory.—W. F. Parks, 739 Broad street, Augusta, Ga., wants information and prices on machinery for manufacturing starch; also particulars as to the materials, etc., necessary.

Steamboat.—The Louisiana Logging Co., Baton Rouge, La., wants a steamboat for towing.

Steam Heater.—S. P. Mann, Charlottesville, Va., wants a steam heater for hotel.

Water Works.—S. Taliaferro, Houston, Texas, will soon receive bids for the construction of water works in South Houston.

Woodworking Machinery.—J. J. Giesler, Meadow View, Va., will probably want outfit for a planing mill and sash, door and blind factory.

Woodworking Machinery.—U. A. Clayton & Co., Fairmont, W. Va., want a planer and matcher, pony planer, moulder, jointer, tenoner, mortiser, rip saw, swinging saw, dust fan and a shaper.

CORNWALL, VA.

LEXINGTON, ROCKBRIDGE CO., VA., }
October 20, 1890. }

Editor Manufacturers' Record:

Money is flowing freely into the Shenandoah valley for investment. It comes from the Northern States and from England. It is applied to the building up of new industrial towns along the lines of the Shenandoah and the Norfolk & Western Railroads. The instances in which men have in a short time realized thousands of dollars by the investment of as many hundreds in this section are numerous. The writer, after traveling extensively in the South, has become convinced that the prosperity of Southwest Virginia is assured, for it rests upon the most solid foundations. Aside from the healthful climate, beautiful scenery and other natural attractions, it has combinations of advantages and resources equaled by few and surpassed by no other localities. First are our high-grade iron ores, boundless in quantity, and so situated as to be economically mined. Then there our forests that will furnish the materials for building and manufacturing industries for a long period. Our agricultural lands need no encomiums. Before General Grant could capture Richmond he felt compelled to destroy the rich harvests of this valley, on which General Lee relied for food to sustain his army. It was the loss of the food from this great storehouse that finally led to the evacuation. We have clays and building stones in great variety and many other things on which industries can be established. But iron is our greatest resource. Its purity, strength and abundance have long been known. Some years prior to 1860 Commodore Whittle, of the United States navy, was ordered to Fortress Monroe to test cannon cast of iron obtained in different States. Every gun was shattered by the heavy charges used until he tried one cast at the Tredegar Works, of Richmond, from iron made from the ores of this vicinity. After trying all other means he loaded it to the muzzle, which he placed against the face of a rock wall ten feet thick. No gun could stand that test. Again, during the last twelve months the Secretary of the Navy advertised for bids for a specified grade of iron. Many proposals were received, some bidders offering their iron as low as \$16.50 per ton, but the contract was awarded to a furnace company in this neighborhood at \$20.50. Very significant, this!

Our railway facilities are excellent and are constantly enlarging, giving us transportation to all points, including tidewater points, and bringing us cheap coal and coke. Water-powers abound. These are the advantages that are building up Buena Vista, Saverlake, Cornwall and the whole of Rockbridge county. Strangers coming here find churches, excellent schools, a well-ordered society and a hospitable and cultivated people. M.

Hercules Ice Machines

FOR

Ice Making, Cold Storage, Packing Houses, Breweries, &c.

Send for our new illustrated circular.

Hercules Iron Works, - - - Chicago, Ill.

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Which is the old reliable and best grate Enamel on the market? Why, BONNELL'S NUBIAN, with many imitations, but no equals, for Grates, Registers, Stove, Steam and Furnace Pipes, Locks, Hinges and hundreds of other uses. Put up in half-pint cans with brush. It is just what every housekeeper wants. Buy a case of your jobber.

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from center. Fitted up with our new
style Nasmith Steam Pile Drivers.
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DUSTIN-HUBBARD MFG. CO., Fort Payne,
Ala., want Pattern Makers, Blacksmith,
Sand Moulders on machine work and machinists.

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large acquaintance would like to represent
a manufacturer in Philadelphia and vicinity.
Best of references. Address "R. E.," care Manu-
facturers' Record, Baltimore, Md.

WANTED.—Manufacturers and Importers of
Glass, Tin and Queensware, Druggists' and
Stationers' Sundries, Wooden and Iron Goods,
Chemicals, Toys, or anything carried by General
Mdse. Stores, to mail us Catalogues & Price Lists.
W. S. BLACKSHEAR & CO., Jobbers, Waco Tex.

A YOUNG MAN with CAPITAL WOULD
LIKE A PARTNER WITH CAPITAL
AND EXPERIENCE IN THE MANU-
FACTURE OF FURNITURE OR SOME OF ITS
SPECIALTIES OR OTHER WOODWORKING
BUSINESS. Good location—near the mountains
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An enterprising firm of civil engineers are de-
sirous of establishing themselves in some grow-
ing town in the South. Correspondence solicited.
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ence of Construction.
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COTTON MACHINERY FOR SALE, made
by Bridesburg Manufacturing Co. 4,000
spindles, carding, &c., entirely complete and in
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engine and boiler plant. It will be shown to be a
most desirable opportunity to make an invest-
ment. The patterns and tools may be moved to any
city, as the real estate now occupied by the
plant has been sold. Address "M. A.," care of
Manufacturers' Record, Baltimore, Md.

SEALED BIDS will be received by the Town
Council of Waynesboro until November 11,
1890, for the lighting of the town of Waynesboro,
Va., with not less than 10 arc lights of nominal
2,000 candle-power, and the furnishing of incan-
descent lights to its citizens. The right to reject
any or all bids, or any part of any or all bids,
is hereby expressly reserved. Address J. S.
MYERS, Chairman Light Committee, Waynes-
boro, Va.

SEALED PROPOSALS will be received at the
Office of the Supervising Architect, Treasury
Department, Washington, D. C., until 3 o'clock
P. M. on the 14th day of November, 1890, for all
the labor and materials required for the ap-
proaches to the U. S. Courthouse, Postoffice, &c.,
building at Louisville, Ky., in accordance with
the drawing and specification, copies of which
may be had on application at this office or the
office of the superintendent. Each bid must be
accompanied by a certified check for \$500. The
Department will reject all bids received after the
time herein stated for the opening of the same,
also bids which do not comply strictly with all
the requirements of this invitation. Proposals
must be enclosed in an envelope, sealed and
marked "Proposal for the Approaches to the U. S.
Courthouse, Postoffice, &c., building at Louis-
ville, Ky.," and addressed to JAS. H. WINDRIM,
Supervising Architect. October 16, 1890.

SEALED PROPOSALS will be received at the
Office of the Supervising Architect, Treasury
Department, Washington, D. C., until 3 o'clock
P. M. on the 14th day of November, 1890, for all
the labor and materials required to do all the
decorative painting, &c., for the first, second and
attic stories and main stairway hall of the U. S.
Postoffice, &c., building at Springfield, Ohio, in
accordance with the specification and general
plans of building which may be had on applica-
tion at this office or the office of the Superintend-
ent. Each bid must be accompanied by a certifi-
ed check for \$500. The Department will reject all
bids received after the time herein stated for
opening the same; also bids which do not com-
ply strictly with all the requirements of this in-
vitation. Bids must be enclosed in an envelope
sealed and marked "Proposal for Decorative
Painting, &c., for the U. S. Postoffice, &c., build-
ing at Springfield, Ohio," and addressed to JAS.
H. WINDRIM, Supervising Architect. October
17, 1890.

SEALED PROPOSALS will be received at the
Office of the Supervising Architect, Treasury
Department, Washington, D. C., until 3 o'clock
P. M. on the 14th day of November, 1890, for all
the labor and materials required for the superstruc-
ture and completion (except heating apparatus,
elevators and approaches) of the U. S. Customhouse,
Courthouse and Postoffice building at El Paso,
Tex., in accordance with the drawings and specifi-
cation, copies of which may be had on application
at this office or the office of the Superintendent.
Each bid must be accompanied by a certified
check for \$500. The Department will reject all
bids received after the time herein stated for the
opening of the same, also bids which do not com-
ply strictly with all the requirements of this in-
vitation. Proposals must be enclosed in an
envelope, sealed and marked "Proposal for the
Superstructure and completion of the U. S.
Customhouse, Courthouse and Postoffice building
at El Paso, Tex.," and addressed to JAS. H. WIN-
DRIM, Supervising Architect. October 15, 1890.

SEALED PROPOSALS will be received at the
Office of the Supervising Architect, Treas-
ury Department, Washington, D. C., until 3
o'clock P. M. on the 6th day of November, 1890,
for furnishing all the labor and materials re-
quired for the erection and completion (except
heating apparatus) of the United States Post-
office building at Lancaster, Pa., in accordance
with the drawings and specification, copies
of which may be had on application at this
office or the office of the superintendent. Each
bid must be accompanied by a certified
check for \$500. The Department will reject
all bids received after the time fixed for
opening the same, also bids which do not
comply strictly with all the requirements of
this invitation. Bids must be enclosed in an
envelope, sealed and marked "Proposal for the
Erection and Completion (except Heating Ap-
paratus) for the U. S. Postoffice Building at Lan-
caster, Pa.," and addressed to JAS. H. WIN-
DRIM, Supervising Architect. October 13, 1890.

SEALED PROPOSALS will be received at the
Office of the Supervising Architect, Treasury
Department, Washington, D. C., until 3 o'clock
P. M., on the 3d day of November, 1890, for all
the labor and materials required for the erection
and completion of the U. S. Postoffice building at
Dayton, O., in accordance with the drawings and
specification, copies of which may be had on applica-
tion at this office or the office of the Superintend-
ent. Each bid must be accompanied by a certified
check for \$500. The Department will reject all
bids received after the time herein stated for the
opening of the same, also bids which do not com-
ply strictly with all the requirements of this invitation.
Each proposal must be enclosed in an envelope,
sealed and marked "Proposal for the Plumbing
and Gas-piping for the U. S. Postoffice, &c., at
Dayton, O.," and addressed to JAS. H. WIN-
DRIM, Supervising Architect. October 14, 1890.

SEALED PROPOSALS will be received at the
Office of the Supervising Architect, Treasury
Department, Washington, D. C., until 3 o'clock
P. M., on the 5th day of Nov., 1890, for furnishing
all labor and materials required for the erection and
completion of the U. S. Custom-house and Post-
office building at New Bedford, Mass. (except
heating apparatus and approaches), in accordance
with drawings and specifications, copies of which
may be had at this office or the office of the
superintendent at New Bedford, Mass. Each bid
must be accompanied by a certified check for
\$500. The Department will reject all bids re-
ceived after the time herein stated for opening
the same, also bids which do not comply strictly
with all the requirements of this invitation.
Proposals must be enclosed in envelopes, sealed
and marked "Proposal for the Erection and Com-
pletion of the U. S. Custom-house and Postoffice
Building at New Bedford, Mass.," and addressed to
JAS. H. WINDRIM, Supervising Architect.
October 14, 1890.

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If interested send for our Catalogue No. 13, just issued, of Locomotives, Cars, &c., of every description, for all kinds of work.

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Railway Equipment. REGINALD CANNING & CO.

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Equipment of Railway and Car Works
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CARLISLE MFG. CO. Cars, Engines, Frogs AND SWITCHES, CARLISLE, PA.

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First-Class Water-Power,

Located at Ballston Spa, N. Y., consisting of new dam, steel steam boiler and three acres of land. Address H. E. McKNIGHT, Attorney, Ballston Spa, N. Y., or CHARLES WHITING, Albuquerque N. M.

FOR SALE.

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FOR SALE.

- 1 20-in. swing Engine Lathe, 14-ft. bed.
- 1 14-in. swing Engine Lathe, 7-ft. bed.
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- 1 Water Grinder.
- 1 28 in. x 28 in. x 7 ft. Planer.

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- 1 No. 2 Two-Spindle Profiling Machine. Bement.
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- 1 Trip Hammer.
- 1 No. 7 Root Blower.
- 1 No. 3 Sturtevant Exhaust.
- 1 No. 3 Universal Miller. Brinard.
- 1 No. 3 Lincoln Pattern Miller.
- 1 No. 1 Plain Miller. Brown & Sharpe.
- 1 Horizontal Drilling Machine.
- 1 Set 12 in. x 10 ft. Power Bending Rolls.

Write us for what you want and send description of Machinery that you wish to trade or sell.

THE J. A. MACKINNON MACHINERY CO.

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SECOND-HAND MACHINERY.

- 1 Iron Pl. planes 8 ft. long, 38 in. x 36 in., 2 hds. Sellers.
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- 1 " " 8 ft. " 30 in. x 30 in.
- 1 Engine Lathe, 20-ft. bed, 72-in. swing. Good.
- 1 Engine Lathe, 16-ft. bed, 60-in. swing.
- 1 Engine Lathe, 10-ft. bed, 20-in. swing. Good.
- 1 Automatic Gap Lathe, 8-ft. bed, 48-in. swing.
- 1 Engine Lathe, 8 ft. bed, 18 in. swing.
- 1 Engine Lathe, 8 ft. bed, 15 inch swing.
- 1 " " 6 " " 18 " " chuck.
- and various other sizes.
- 1 Small Turret Head Lathe.
- 1 24-in. B. G. S. F. Blaisdell Drill. Good.
- 1 20 inch Plain Drilling Machine.
- 1 Betts 50-in. Horizontal Boring Mill.
- 1 6 1/2 in. Slotter, automatic feed.
- 1 40-lb. Bradley Cushioned Hammer.
- 1 Small Power Press.

Send for list Second-hand tools.

NEW YORK MACHINERY DEPOT,
Brooklyn Bridge Store, 16, New York.

Bargains in Machine Tools.

We have the following Machine Tools, taken mainly in exchange for those of our own manufacture. We will sell them low.

LATHES—Second-hand.

- 4 9-in x 2 ft. P. & W. Bench Hand Lathes. G. Order.
- 2 10-in. x 3 ft. P. & W. Bench Hand Lathes. " "
- 1 10 in. x 2 ft. 6 in. P. & W. Bench Turret Lathe. " "
- 1 18-in x 6 ft. Lathe. Fair Order.
- 1 20x8 Engine Lathe. Good Order.
- 1 20x13 H. rris Lathe. Fair Order.
- 1 21x10 Curtis Lathe. Fair Order.
- 1 26-in. Stevens Pulley Lathe. Fair Order.
- 1 40x15 ft. 6 in. Lathe. Not Repaired.

PLANERS—Second-hand.

- 1 10-in. Traveling Head Shaper. Good Order.
- 1 20-in. Smith & Co. Shaper. Nearly New.
- 1 24x24x4 Planer. Good Order.
- 1 26 in. Geared Shaper, Old Style, L. D. & Co. Good Order.

MISCELLANEOUS—Second-hand.

- 1 Hendey 3 Spindle Drill Press. Good Order.
- 1 24-in. Drill Press. Good Order.
- 1 34-in. Drill Press. Fair Order.
- 1 26-in. B. G. Drill Press. Good Order.
- 1 Standish Foot-Power Hammer. New.
- 1 Knight Punch and Shear (Comb). New.
- 1 12-in. Bement Slotter. Good Order.
- 1 Natl. Double Head Bolt Cutter, A No. 1 Order.
- 1 Emery Grinder and Stand. Good Order.
- 1 No. 1 Sturtevant Noiseless Blower. Good Order.
- 1 750 lbs. Steam Hammers. (Bement, Miles & Co.) Good Order.
- 1 Punch, 18-in. throat to punch 1 in. in 3/4 iron. A No. 1 Order.

Write for Prices.
New additions constantly made to this list.
Complete estimates made on outfits.

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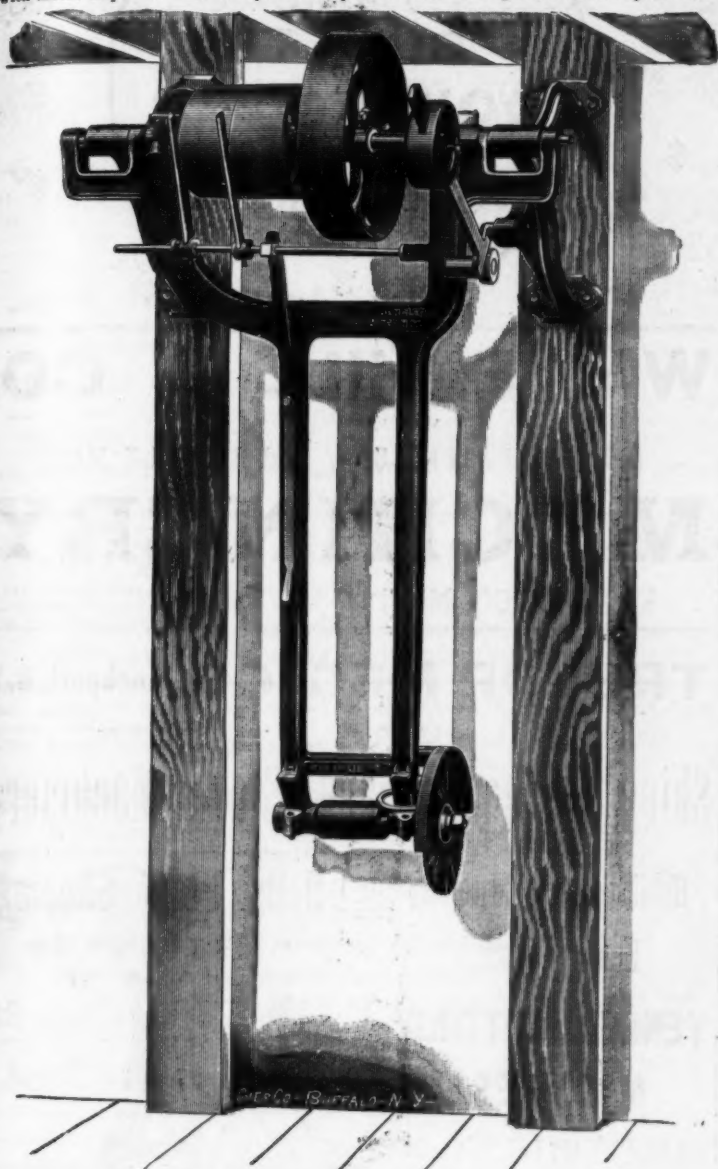
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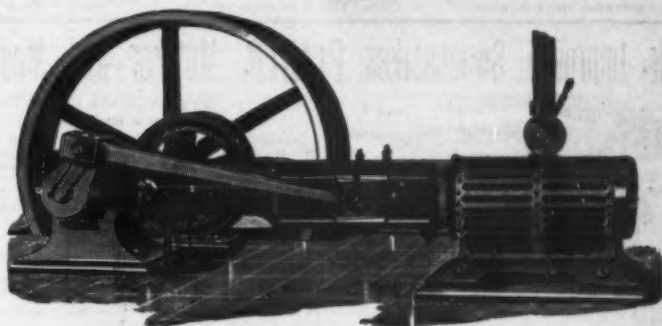
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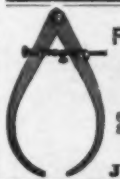
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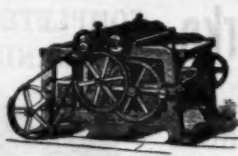
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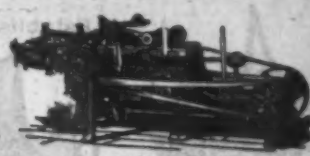
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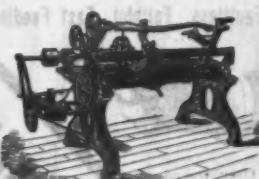
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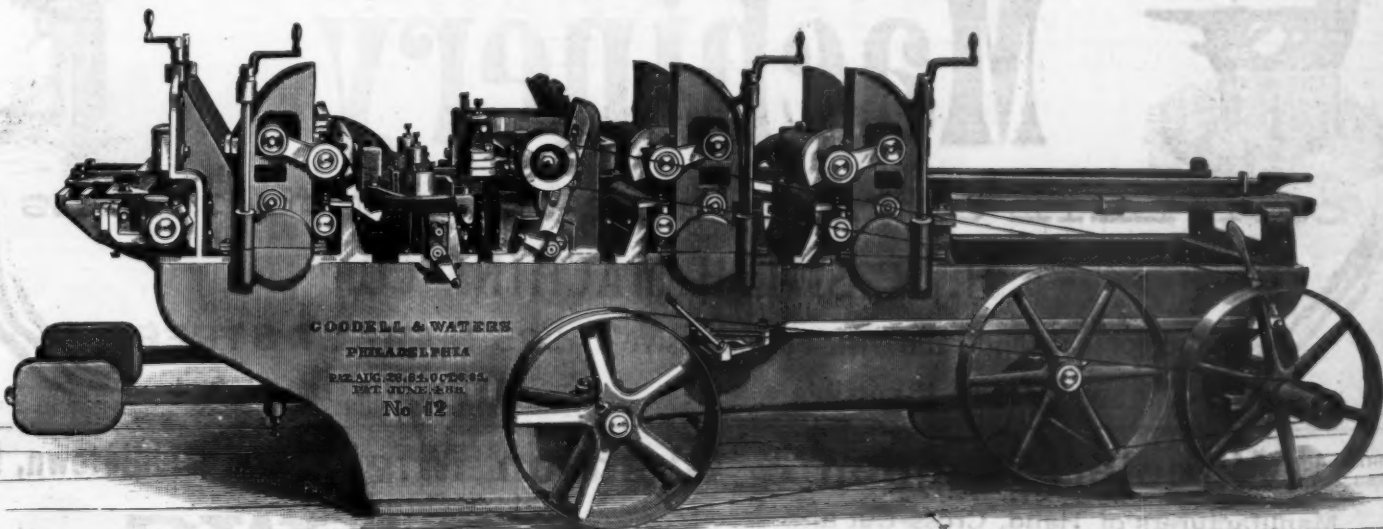
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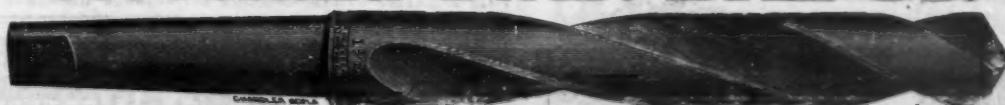
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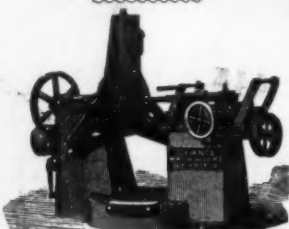
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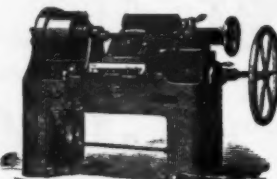
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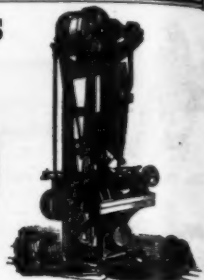
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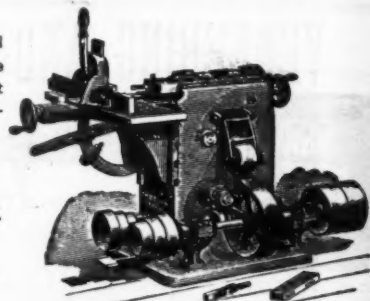
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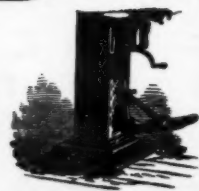


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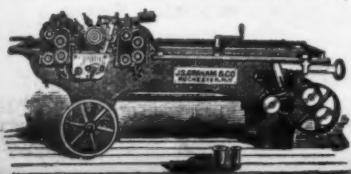
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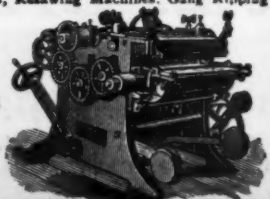
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AN opportunity for investment rarely offered is seen in the card of Ribon & March in this issue. They are about to dissolve partnership and offer for sale their entire plant of engineering machine works in Jersey City, N. J., with all modern and first-class improvements. An investigation of this offer would doubtless interest those who desire to invest in manufacturing enterprises.

Employers' Liability.

Employers' liability insurance is making smooth and steady progress, the business showing a gradual expansion. The South is offering an enlarging field for this business. The great and rapid increase in the number of industrial establishments, and the increase of capital in that section has been followed by a demand for insurance against liability from accidents to workmen. It is curious how this increase in wealth affects the demand for this insurance. The concern which has no surplus of working capital will rarely insure, though an accident to its employees might entail expenses it could ill sustain, while those with ample funds, able to run their chances, are the ones who desire insurance.

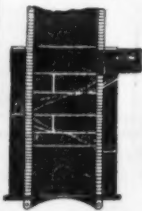
The late decision of the United States Circuit Court that vessel owners are liable for injuries to sailors arising from defective condition of the rigging, thus reversing previous rulings, is expected to open a great field for employers' liability insurance among vessel owners. Another branch of this form of insurance, which has assumed considerable proportions, is elevator insurance. The inception of this dates back only two or three years, but already property owners are beginning to look upon it in the same manner as they do fire insurance, regarding its cost as one of the necessary expenses of conducting business. Elevator accidents are alarmingly frequent, there having been several fatalities within the last month. The management of the business has been thoroughly systematized.

The public may not be generally aware that owners and lessees of buildings may be reliable for claims on account of accidents which may happen to any person (passenger or employee) in an elevator or elevator well, or while entering upon or alighting from an elevator car.

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from loss by elevator accidents, the general public receives additional protection from the thorough and frequent inspections to which the elevators are subjected.



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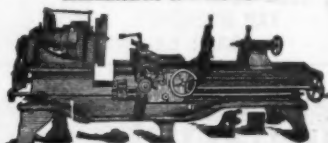
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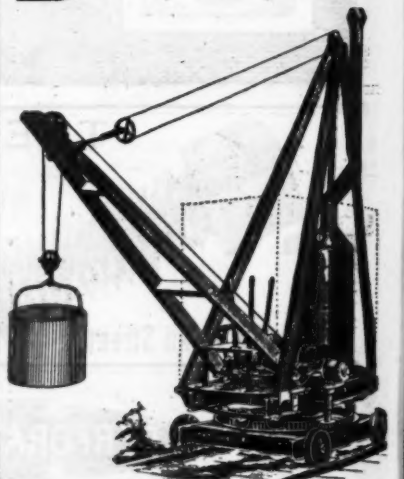


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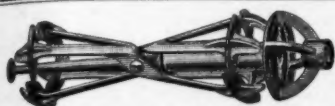
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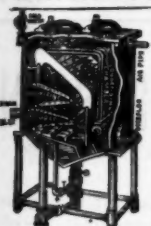
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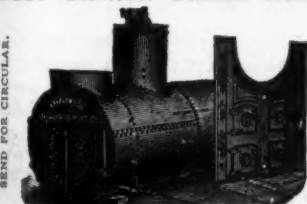
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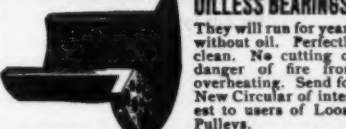
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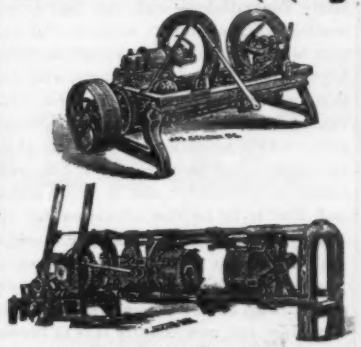
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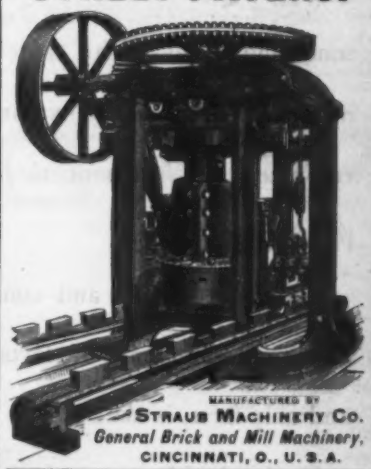
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Six Trunk Line Railroads at BESSEMER

In the heart of Mineral Alabama, encircled with hills of Coal, Iron and Limestone Rock.

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BIG STONE GAP, VA.

Short System Flour Mills.

For many years the builders of roller mills in this country have felt the necessity of shortening and cheapening the process, so as to bring the roller mill within the reach of the small millers, especially those in rural districts that must depend principally, if not solely, upon a custom or exchange trade.

The J. B. Allfree Co., of Indianapolis, Ind., have made a special effort in this direction, and claim to have accomplished more in this direction than other mill builders of this country, from the fact that success has been attained in building a mill with a capacity of from one to one and one-fourth barrels per hour (or more if desired), and price corresponding. We take the following from the company's circular descriptive of its 25 to 30-barrel short system mill: This mill is capable of turning out a flour equal in quality and quantity to that of any of the larger mills making a straight grade, or near a straight grade.

These mills may be run on exchange, or strictly as a custom mill, grinding every man's grist separately if desired, with no more left in the mill than there would be with the old stone mill, and indeed we think hardly so much. It must not be inferred that this mill is anything but first-class, as it is in every way a practical and thoroughly successful system, equal in lasting qualities to any mill built. It contains precisely the same quality of machinery as our largest mills, the difference being in the amount and size of machines used.

It would take considerable space to go into detail, which would no doubt call up the necessity of considerable argument, and it will suffice to say that every point in the system can be supported not only by the strongest scientific argument, but also from the fact that these mills are just what we say. We do not recommend them for more than two grades of flour—say a low grade from one to five per cent, and a clear from ninety-five to ninety-nine. Of course by increasing the amount of low grade and decreasing the amount of clear the flours would be correspondingly improved; indeed, quite a formidable rival to the best patent flours can be produced.

The absence of vibration in our roller mills, and the perfect control we have of the stock inside our reels, makes possible the unqualified success we are having with

these mills, but even with our perfect working machines we found it necessary to devise a system peculiar to this class of work.

While the system is entirely new and different from anything that has yet been attempted, it is simple and easily managed, and while we discard all superfluous

machines, we retain all that are necessary to make a first-class flour and a perfect finish—making two reductions on wheat and two on middlings. For instance, while the purifier has been discarded, the bran duster has been retained. This system produces a flour that contains more of the nitrogenous matter than any system known, without detracting from its color.

With a mill that will make as much flour out of a bushel of wheat as any other, and

make it as good, what more does any intelligent small miller want, especially when the gigantic fact stares him in the face that by buying this mill a saving of hundreds of dollars can be made and better profits secured on account of less fuel and smaller expense for repairs.

The company will take orders for this

mill either in complete running order, or will supply the machinery and let the buyer do his own millwright work.

ADVERTISERS wishing to reach the manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South cannot find a better medium than the MANUFACTURERS' RECORD.

A New Drill Holder.

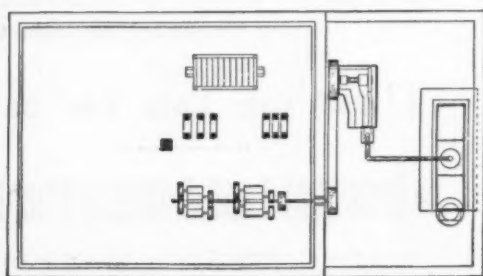
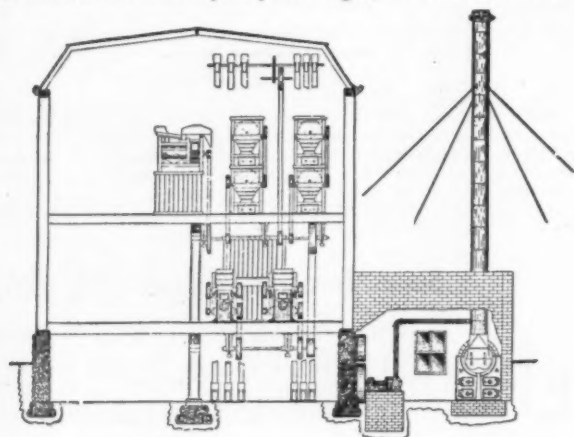
We illustrate with this article a new malleable iron drill holder, which is reamed out to a uniform size and taper, and the holes shown for the screws are drilled accurately by the use of steel gigs. These tools, as shown in cut B, are designed to

the lathe, and in a pinch it will do equally well for a ratchet. Then, too, after a drill has been used in a lathe, its shank is in as good a condition as before, and is not ruined by the set screw of the dog, nor is the tong "busted" by slipping off from the tail center. But one size, viz., No. 3, will be carried in stock at present. This size, with 3 shells or sleeves, will hold all drills from $\frac{1}{4}$ to $1\frac{1}{4}$ inclusive. Other sizes will be made to order only. The Cleveland Twist Drill Co., of Cleveland, Ohio, are the manufacturers of these tools.

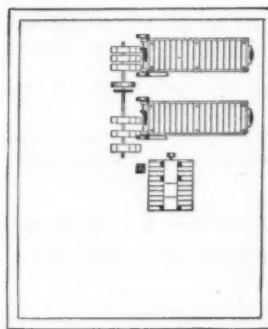
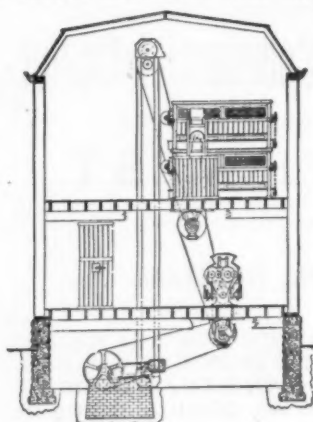
At the annual meeting of the stockholders of the Schuyler Electric Co., held at the office of the company in Middletown, Conn., on Thursday, October 9, 1890, the following gentlemen were chosen directors: S. H. Butler, John N. Camp, Walter B. Hubbard and C. E. Jackson, of Middletown; C. N. Wayland and C. L. Buckingham, of New York, and Chas. E. Dustin, of Hartford. A meeting of the board of directors was held immediately after, and officers for the ensuing year were elected as follows: President, Chas. E. Dustin; vice-president, S. H. Butler; treasurer, Jos. T. Elliott; secretary, D. J. Glazier.

THE Charter Gas Engine Co., Sterling, Ill., reports very satisfactory volume of business so far in the year 1890, and prospects are very bright for the balance of the year. There is hardly a State of the Union they have not received orders from for the "Charter," and, as an illustration mention that within seven days last month they booked orders for one size only, viz., twenty horse-power, from Nebraska, Washington, South Dakota and Illinois, besides other States for other sizes. Not an engine has been held in stock this year, as they have been compelled to work entirely on orders, and have lost some sales because of inability to fill orders in time.

THOMAS R. MILLER, representative of the Hart Manufacturing Co., of Cleveland, Ohio, has just returned from a trip around the world, taken in the interest of that company. He visited the Sandwich Islands, Australia, India and Great Britain, and at every point found a demand for



PLAN OF 25 TO 30-BARREL SHORT SYSTEM FLOUR MILL.



A.—NEW DRILL HOLDER.



B.—NO. 3 SLEEVE.



C.—NEW DRILL HOLDER WITH SLEEVE IN POSITION.

9-16 inclusive. No. 2 sleeve or shell socket will hold the No. 1 sleeve, and also all drills with No. 2 shanks or 19 32 to $\frac{3}{16}$ inclusive. No. 3 sleeve or shell socket will hold the No. 2 sleeve, and all drills from 15-16 to $1\frac{1}{4}$ inclusive. The No. 3 sleeve fits the hole in the handle or holder, completing the combination as shown in cut C.

This convenient little tool was gotten up to facilitate the use of twist drills in the engine lathe. The common practice is to put a dog on the taper shank of the drill, and the no uncommon result is a broken drill or sore finger, or both. Machine shops can save its cost many times, for by using it they will be able to make one set answer for both the drill press and

American tools and machinery, and took many orders for the "Duplex" die stocks, which, it is claimed, are now recognized throughout the colonies as the standard adjustable pipe and bolt-cutting tools. Similar enterprise on the part of other American manufacturers would doubtless result in a largely increased foreign business.

MANUFACTURERS—ENGINEERING MACHINE WORKS FOR SALE. The firm of RIBON & MARCH being about to dissolve their partnership by mutual consent, offer for sale their entire plant, consisting of six lots of grounds and buildings thereon, in the most convenient business part of Jersey City, and fully equipped with first class modern tools and appliances, all in prime order and condition, including a valuable patent. An opportunity to buy a plant for the manufacture of all kinds of machinery so well equipped has not been recently offered. Further particulars by letter at the FACTORY, First, Second and Provost sts., Jersey City, N. J.

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Goods made at the point both of production of the raw material and consumption of the manufactured article, with cost of making comparatively low, must return best profits.

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surrounded by furnaces making the best of foundry and car wheel iron; in a county producing 10,000 bales of cotton; with large tanneries nearby, and with the great unoccupied market of the South and Southwest at its door, offers the above advantages to investors in manufacturing industries, and will give liberal subsidies of land to support the stock of companies located there.

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rates Reasonable.

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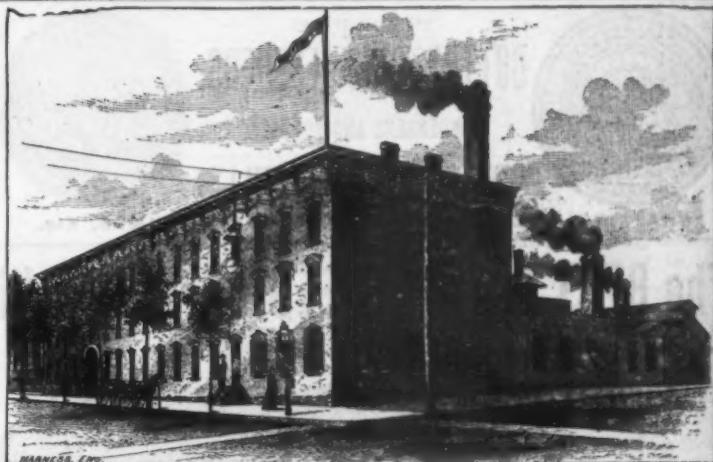
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CHOICE GRADE CLOVER
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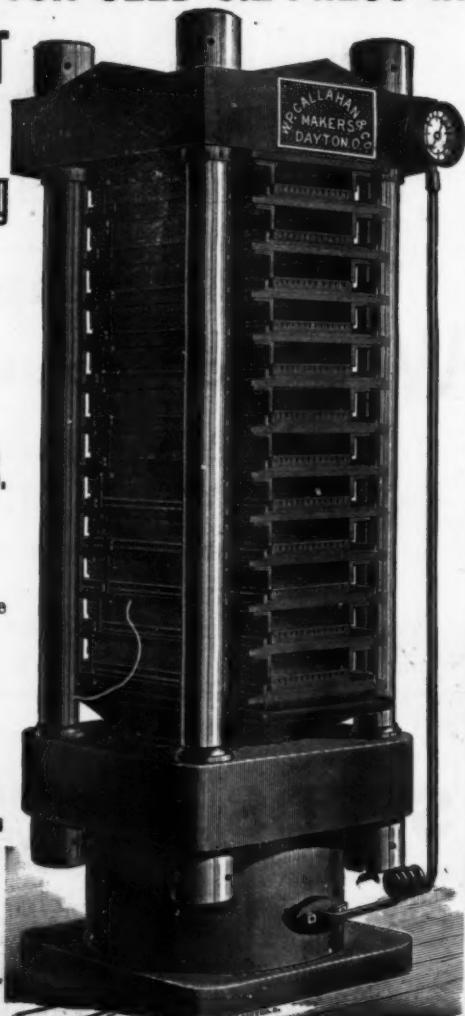
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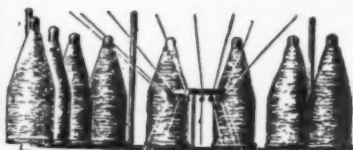
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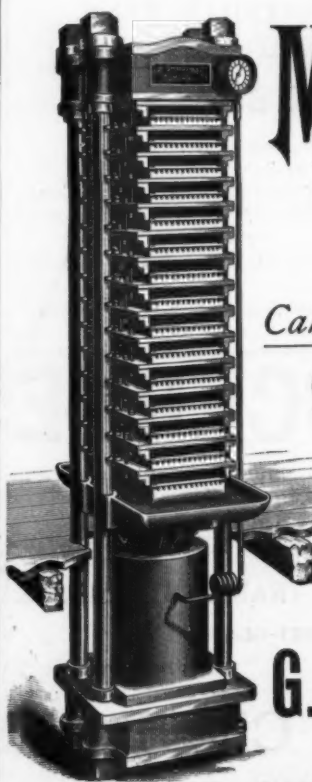
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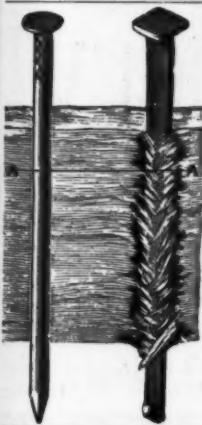
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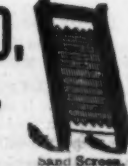
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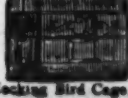
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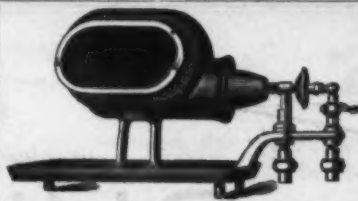
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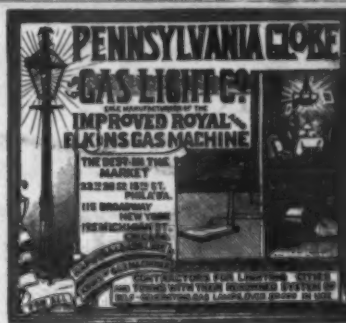


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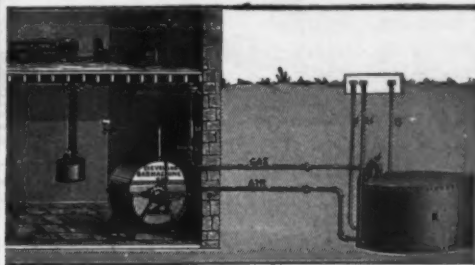
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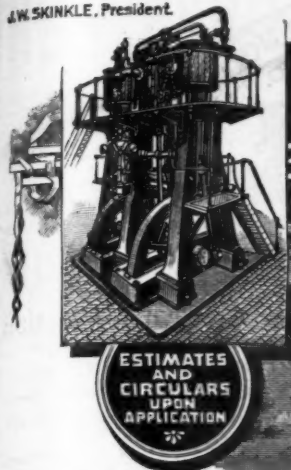
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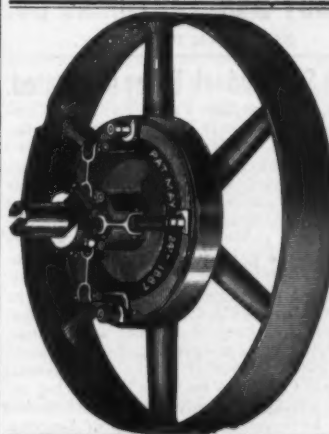
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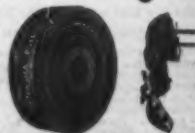
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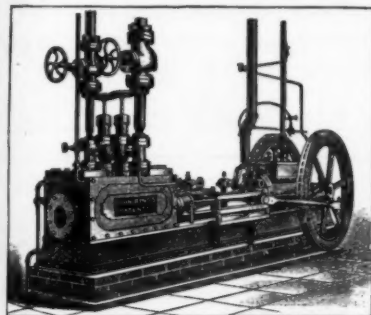


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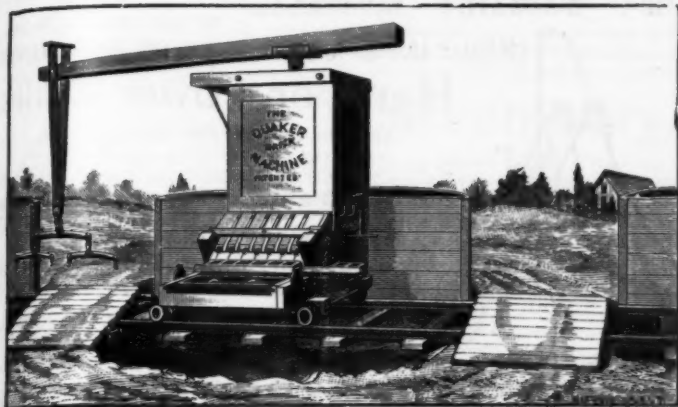
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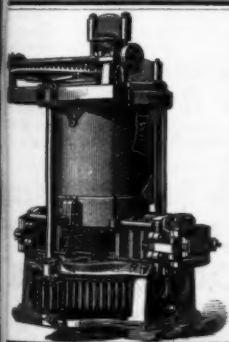
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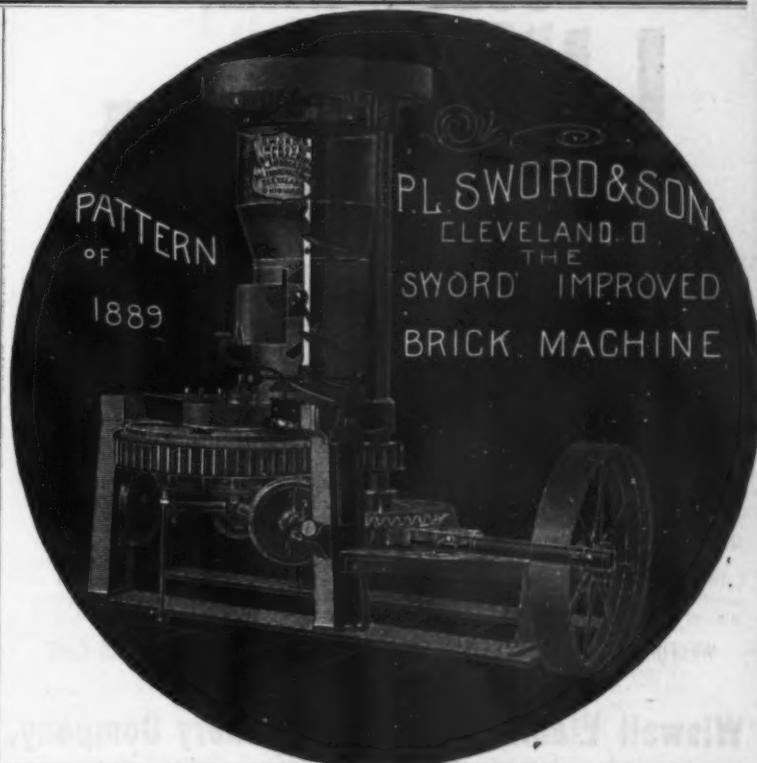
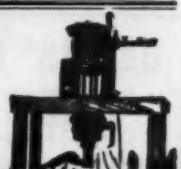
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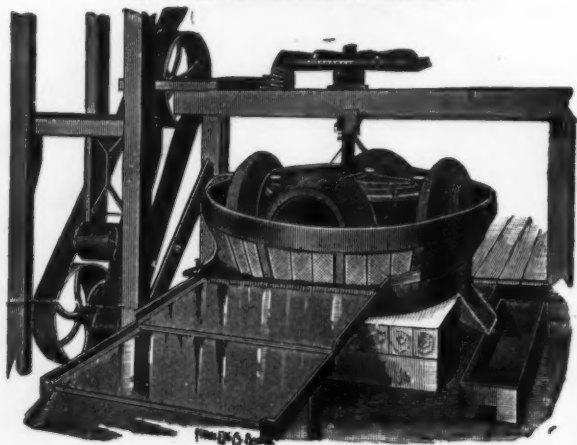
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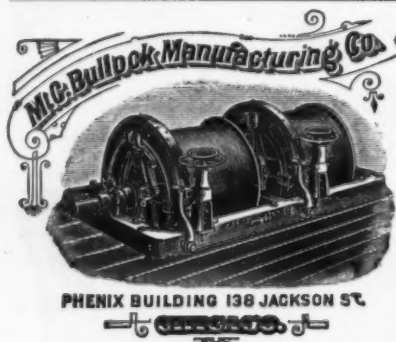
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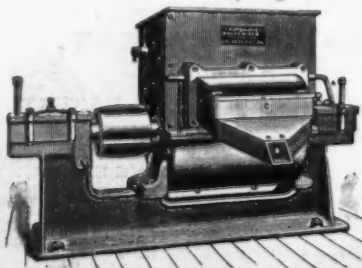
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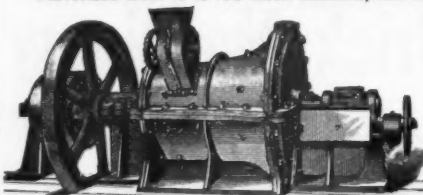
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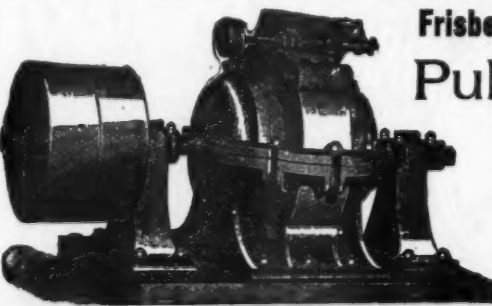
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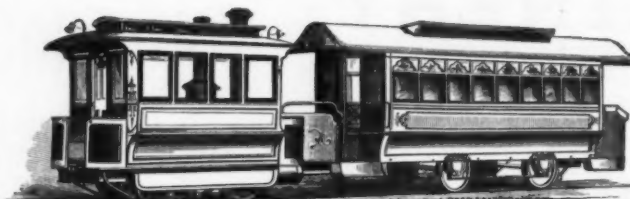
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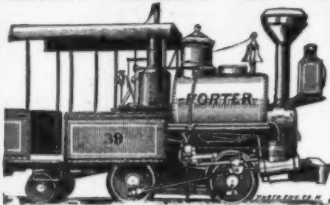
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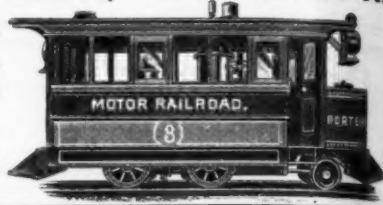
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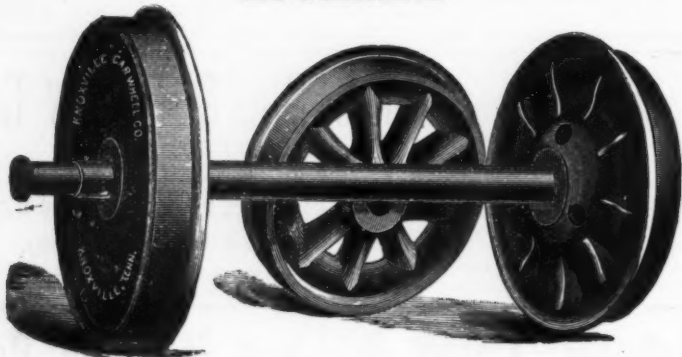
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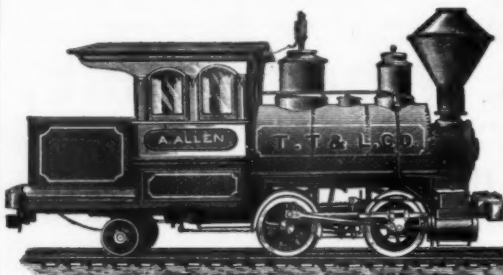
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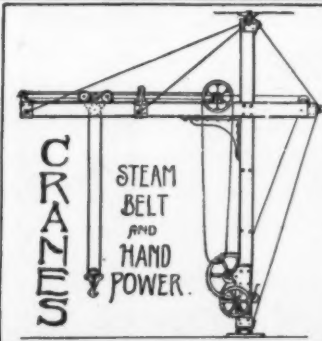


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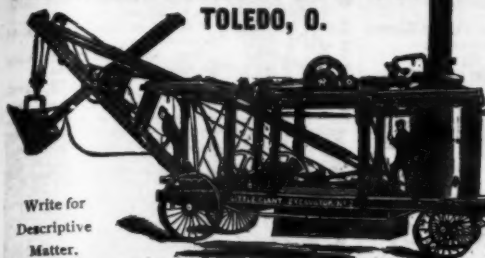
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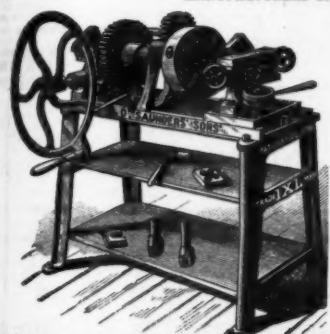
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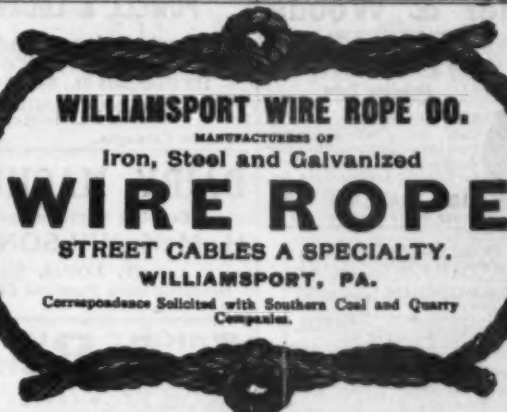
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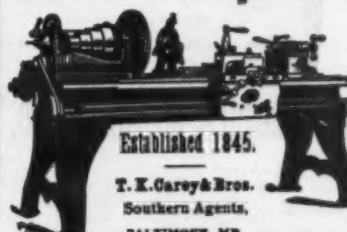
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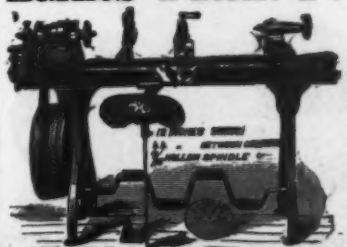
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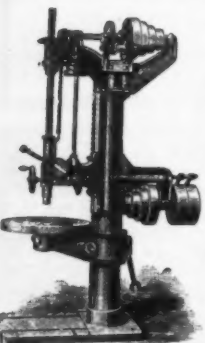
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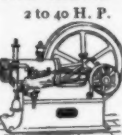
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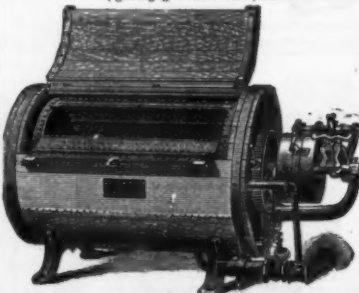
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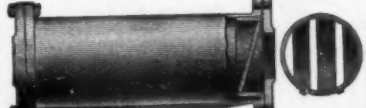
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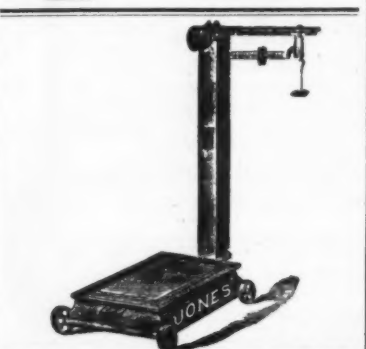
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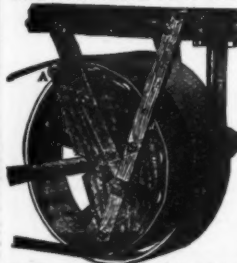
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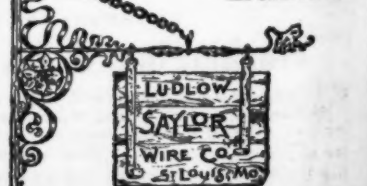
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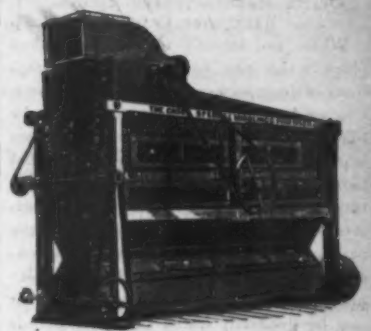
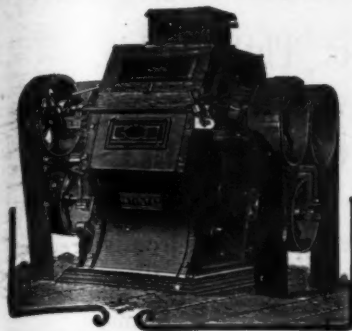
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Evans Friction Cone.

The Evans friction cone system of transmitting power by loose endless belts is enjoying extended and varied applications. It is meeting with success, especially in the driving of dynamos. During the past four years this system has been in continual use by some of the largest and best known

of the weight is on the dumping side of the pivot bar when loaded, and on the reverse side when empty. Its operation is as follows: A trip bar is placed on the track at any desired point, which, as the loaded car is drawn past, releases the lever that secures the bed to the trucks. Upon being released the bed, by weight of the load, dumps, unfastening its end-gate in its

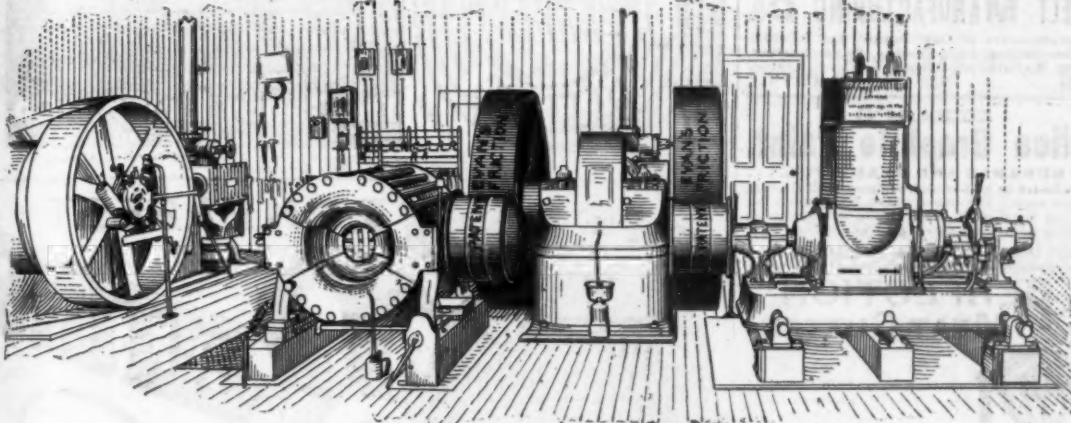
the best thoroughly seasoned white oak, heavily ironed on top. Each section has three or four cross-pieces mortised into the sides, with strong bolts running through and through. A locking joint of peculiar construction is used, which renders the connection very strong. All sections are interchangeable.

The utility and convenience of the track

many other places where these cars and track are in use is in the construction of the Lick Run sewer at Cincinnati, Ohio. This sewer bears the distinction of being the largest in the United States, and offers perhaps more difficulties to be overcome than any of recent build. The contractors found they could effect a large saving by using the cars, estimated in every train of 5 cars at \$31.50 per day. Messrs. C. W. Raymond & Co. carry a complete line of brick-makers' and contractors' supplies, and give personal attention to all correspondence or inquiries.

Metal Wheels.

The Howell wheel is a scientific combination of steel and iron, by which the strongest metal receives the greatest strain, thus securing both lightness and strength. The discs are steel (hammer forged), spokes of steel, tires of iron or steel, as ordered. It is so constructed that expansion or con-



EVANS POWER TRANSMITTING MACHINERY.

manufacturers in the country, during which period it has been subjected to severe tests to determine its durability and efficiency, and the manufacturers state that in every case entire satisfaction was given. We illustrate this system as arranged at an electric-light station in Hutchinson, Kans.

The dynamo at the left is a Thomson-Houston "MD" dynamo, with a capacity of 50 full arc lamps, and the machine is fully loaded. The Edison machine is a No. 16—720 incandescent lamps. They are both driven from the fly-wheel of an Armstrong & Sims engine. This plant has been running constantly since January, 1890, and is giving entire satisfaction in every respect. The Evans Friction Cone Co., manufacturers of the Evans friction cones, are located at Boston, Mass.

Automatic Dumping Cars

We call the attention of contractors and brick-makers to the system of transit for clay, gravel, etc., recently put on the market by Messrs. C. W. Raymond & Co., of Dayton, Ohio, which is claimed to be the most convenient and economical mode of handling such material ever placed before the public. It consists in the use of their patent automatic dumping cars in connection with portable track and a winding drum.

The convenient and labor-saving feature peculiar to this system lies in the cars. They are entirely automatic, no labor being required either to dump the load or return the empty bed to position. Their operation is controlled entirely by the force of gravity and not by any gearing or complicated appliances, hence there is absolutely nothing to get out of repair. By reason of a false bottom in the car the preponderance

downward course. The load being expelled, the empty bed returns to position on the trucks, fastens itself securely thereto and locks its own end-gate.

No attention is required except by one man, who operates the winding drum, and who, by means of it, has them under com-

plete control. They may also be dumped by raising the lever by hand. The cars are made from selected white oak and well painted. Chilled wheels 14 inches high, 3 inches face are used upon it. A feature also of merit is the improved self-oiling boxes, by which one oiling in eight or ten days is sufficient.



AUTOMATIC DUMPING CAR.

plete control. They may also be dumped by raising the lever by hand.

The cars are made from selected white oak and well painted. Chilled wheels 14 inches high, 3 inches face are used upon it. A feature also of merit is the improved self-oiling boxes, by which one oiling in eight or ten days is sufficient.

Their portable track is for use with any kind of cars, and is made in sections from

clay, sand and gravel banks, etc., the advantage to the user is apparent.

They recently received an order for about 5 miles of this track, 25 switches, cars, etc., for use in constructing the large park and mansion being built by Mr. Geo. W. Vanderbilt at Biltmore, near Asheville, N. C. His agent, Mr. O. B. Wheeler, Jr., writes on the arrival of the goods that they are very much pleased with them. Among



THE HOWELL METAL WHEEL.

traction have no detrimental effect upon it, all the parts expanding or contracting alike. The strain is distributed evenly upon all the parts, and is both elastic and rigid, depending upon the tensile strength of the spokes, and not upon compression.

The wheel is formed by inserting spokes with cone-shaped heads into counter-sunk holes in the tire; the opposite ends of the spokes, headed, being bent in a circular form and inserted into steel discs. The discs are then forced apart, and are held so by the thimble, thus creating a pull inward upon the spokes from the tire, the box or hub being forced in, completes the wheel. By this construction the load is distributed upon all parts, and not upon one section at a time.

All wheels are made with cast iron boxes, and are removable and interchangeable, and when worn can be renewed by ordering the same number.

Manufactured by the Howell Wheel Co., Covington, Ky.

The Markets.

OFFICE MANUFACTURERS' RECORD,
BALTIMORE, October 22, 1890.

While no decided change has taken place in the iron market, there are symptoms of improvement in several quarters. One evidence of this improvement is to be found in the fact that makers of Southern iron have been able to obtain somewhat better prices on some of their recent contracts than for months past. More or less inferior iron has been selling during the past week at prices apparently below general market quotations, but the low prices named are certainly due to inferiority. It can be generally stated that good brands are bringing strong prices. Large transactions are reported in pipe iron, and there have also been a few good sales of Bessemer. Southern iron has been selling well in Chicago for Northwestern delivery. Some difficulty is encountered in obtaining prompt deliveries on account of a scarcity of cars. Several Southern makes have been nominally advanced 25 cents, and it is probable that some iron has been sold this week at that advance; in fact, there is a strong feeling, especially among Southern iron-makers, to advance prices this fall. Southern makers claim that their iron has been selling below what it is worth, and that a moderate advance will simply secure to them its full value. A recent telegram states that the Tennessee Coal & Iron Co. sold several thousand tons at their advance. In Western Pennsylvania business is active, and in Eastern Pennsylvania a fair amount of business is being done at fair prices. Tidewater quotations are \$17.50 to \$18.25 for No. 1; \$16 to \$17 for No. 2. Some Southern iron, No. 3, has sold as low as \$14.75. Southern coke No. 1 foundry is worth \$16 at St. Louis, \$15.50 at Cincinnati. At Pittsburgh Bessemer pig has been selling at \$17.50. A heavy demand for muck bars is maintained at all points, and brokers report numerous inquiries for December delivery. Merchant bar mills throughout the country are crowded with work. All kinds of sheet iron are in active demand. Steel billets have been selling at Pennsylvania mills at \$31 and less. The tendency of prices is downward. Large buyers are awaiting a further decline. There is an urgent demand for skelp iron and for wrought iron pipe, but manufacturers think that there will be an easing up very soon. Wire rods have been reduced in Western Pennsylvania to \$41, and quotations East are \$43. A heavy ore business is reported at Cleveland, and shipments this year are nearly 700,000 tons over last year. The rail trade is unsettled; stocks are accumulating; prices are weakening, and a restriction is contemplated. There is great activity in plate and structural iron. Prices are generally firm, excepting where very large orders are to be secured. There is an active demand for small lots of steel rails, and prices are quoted at Pennsylvania mills at \$30 to \$31. A meeting of the steel rail manufacturers was held in New York on Wednesday. There is great activity in car and ship building. There is a general scarcity of cars throughout the country, and it is understood that railway companies are contemplating the placing of large orders for rolling stock at an early day. Everything points to a continued activity during the rest of the fall and the winter. Machine shops using iron and steel are quite liberal buyers at present.

HARDWARE.

The demand for hardware is not as brisk as it has been for some time, owing to the trade having stocked up considerably. In many cases jobbers have laid in large stocks in anticipation of steady, if not higher, prices. Prices remain about the same on

all the leading lines. Tacks, strap and T hinges and rules are still very low, and are being sold at prices that entail a loss to the manufacturer. There has been a movement to control the production and prices of ice cream freezers, but the several manufacturers have not been able to agree on a satisfactory basis. Lawn mowers were sold last season at low prices, and, from the present outlook, still lower prices will prevail the coming season. Picks, mattocks, etc., are still being offered by some manufacturers at cut prices, but buyers have difficulty in placing their orders for first-class goods at the low prices prevailing. The scythe market continues very unsteady, and the determination of the American Axe & Tool Co. to sell its scythe production has not improved the condition of the market.

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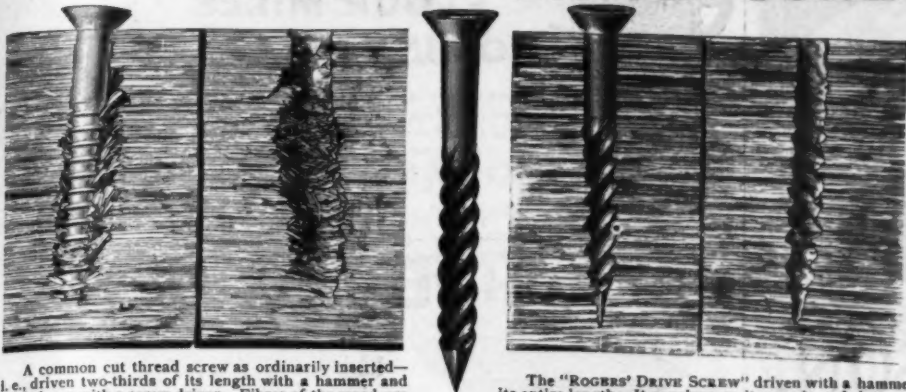
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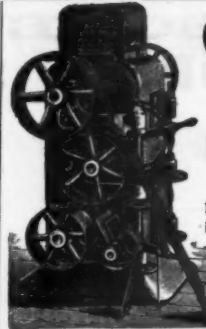
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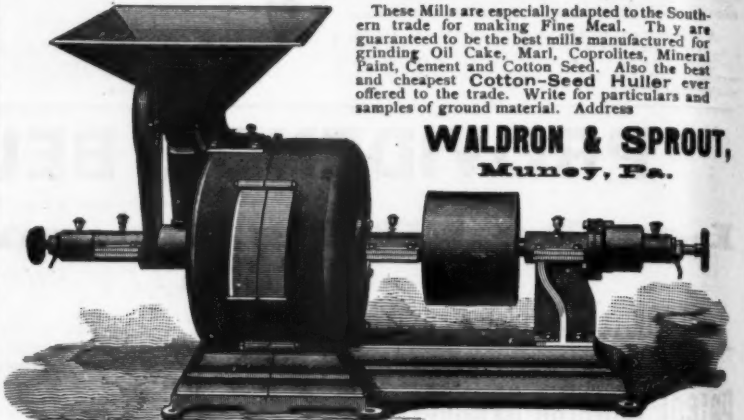
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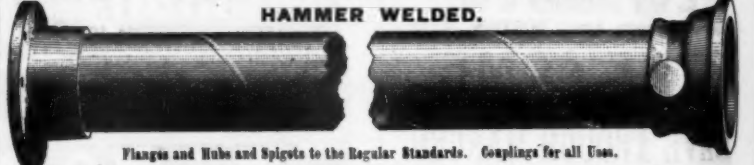
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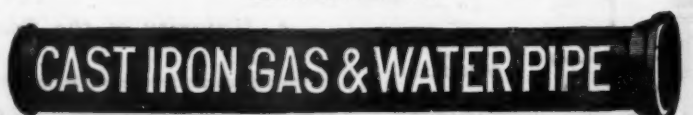
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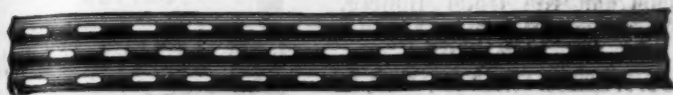
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Factory, 75 & 77 Central Way. JAMES WADE, Sec. & Treas., 3 Case Bldg.

ORDER DIRECT FROM THE
Iron Clad Paint Co.

And get the genuine article, and save liability of suit for using an article made in violation of the patents issued to Wm. Green, and now owned by this Company.

IRON-CLAD PAINT is the most durable, most fire-proof and cheapest Paint made.

FURNISHED both Dry and Ground in Oil.

USED BY NEARLY ALL THE RAILROADS.



Trade Mark Patented Paint Co. regd.

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LATEST IMPROVED SLIP JOINT EAVE TROUGH,

LONGEST IN THE WORLD, GOES TOGETHER EASILY, NO SOLDER REQUIRED. BEST CONDUCTOR, HANGER, ETC.

MADE BY **THE CANTON STEEL ROOFING CO., CANTON, O.**

PAT'D
 1889

Eastern Lumber Markets.

[Special Cor. MANUFACTURERS' RECORD.]

NEW YORK, October 21, 1890.

Notwithstanding the lateness of the season, considerable business is being done in all kinds of lumber. Much of the stuff coming to hand is going into yards to be held for future wants. There is at the same time a good retail demand which covers everything from white pine up to mahogany. Part of this activity is due to the well-established reports from interior points that stocks are under good control, or to state it more pointedly, that there is not that accumulation of lumber in primary markets that generally weaken prices in distributing centers. The fact is that word comes from all quarters that lumber is not half so abundant as we were led to expect. Manufacturers in the interior are not writing to their agents begging them to sell at whatever prices they can get, but they are quietly holding on to what they have and waiting for buyers to come to them. This, of course, means a strong market and strong prices. The bulk of the white pine trade is confined to small transactions. The lumbermen of Tona-wanda and Buffalo have been holding a meeting discussing trade questions. Prices on yellow pine are being shaded when large sales are made. Prices are low just at present, owing to the anxiety of a great many wholesalers to reduce their holdings. We have been offered a good deal of Georgia pine recently at shaded prices for spot cash. North Carolina pine has been arriving in considerable quantities, and in consequence prices are low. Still there is an enormous amount of lumber being sold to the local and outside trades. There is not much to say regarding the future of the market, but the general impression is that the winter will be an active one. A good business is being done in all kinds of hardwood by retailers. There is no doubt entertained but that quartered sawed oak and first-class poplar will continue to sell as fast as it is likely to arrive. One-inch poplar is selling at \$31.50; quartered sawed oak, 6 inches and over, is worth about \$53; one-inch ash commands \$36; walnut is quoted all the way from \$100 for two-inch stuff down to \$50 for rejects and \$35 for one-inch culls; cherry is selling at \$80 to \$85 for first-class inch stuff; cypress is arriving freely, and the list of miscellaneous woods is increasing in quantity. A large amount of building will be prosecuted this winter. Builders are now looking out for warehouse flooring, flat-grained flooring and finishing lumber in general. Lath have been selling very well, but the rush is now over. It is not likely that the reduction in the duty on Canada white pine will have any immediate effect, although it is stated on pretty good authority that over two hundred million feet have been awaiting the action of Congress. The lumber trade throughout the country is in very good shape. An immense amount of building is being hurried through. Manufacturers and shippers at all points are quite well satisfied with the results of the season's business. There are anticipations of higher prices in many directions, but lumber manufacturers are content with present quotations. Lumber manufacturers, generally, are in a safe condition. They have been conducting business wisely, and have avoided an overstocking of the market. Mill men and their representatives are acting in harmony. Preparations are being made to cut more lumber this winter than last. At the same time it is not likely that there will be any such an excess of supply as will jeopardize the standing of those who are well equipped. A great deal of saw mill machinery is being put up at different parts of the South, and every preparation is being made to increase the shipments of Southern lumber into Northern markets.

THOMAS J. SHRYOCK & CO.
YELLOW PINE COMMISSION MERCHANTS.
Correspondence Solicited.
BALTIMORE AND WASHINGTON.

E. B. HUNTING & CO.
BALTIMORE, MD.
JACKSONVILLE AND FERNANDINA, FLA.
and SAVANNAH, GA.

WHOLESALE MERCHANTS
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Yellow Pine Lumber

Buy for cash on cars at Mills and sell delivered to all points reached by rail or water. Write Baltimore Office.

Southern Investments

Timber Lands bought and sold on commission. I make a specialty of large tracts. Capital invested safely. Timber estimated and valued.

W. H. HOWCOTT,
192 Common Street, New Orleans, La.

LANDS! LANDS!

TIMBER LANDS in large and small tracts in East Texas, Louisiana and West Arkansas. TOWN LOTS and houses in the booming, solid town of ALEXANDRIA, LA.

H. M. LOOMER & CO.
Land Dealers, Alexandria, La.

MISSISSIPPI LAND.

Several large plantations in State of Mississippi, containing both cleared and timbered land; good deal of fine hickory on one. For sale by

PERRY NUGENT, Salem, Va.

FOR \$2,500 YOU CAN BUY

Sash, Door and Blind Machinery

THAT COST \$6,000.

Address L. S. COLBURN, 87 Prospect St., Cleveland, Ohio.

FOR THE BEST AND LOWEST PRICED
GANG LATH MILL
AND BOLTER COMBINED
B. S. ABBOTT
Please mention this paper.

HOSE Christle & LeCount, 351 Canal St., N.Y.

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FIRE HOSE.

All Appliances for Fire Protection for Cities or Mills. General Mill Supplies. Send for illustrated circulars.

S. E. CRAWFORD,
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MANUFACTURER OF
Rubber Bucket Chain
And Wood Force Pump Supplies.
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We have erected
STAND PIPES
At the following Places:
Kankakee, Ill., 20X124
Cornwall, Ontario, 20X120
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Waterford, N. Y., 30X52
Berwick, Pa., 11X45
Homer, N. Y., 25X40
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SHARON BOILER WORKS,
(Limited.)
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JOHNSON, SHRYOCK & CO.
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Office, - Shryock Building,
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MORGAN'S IMPROVED
Steam and Hot Water Boilers,
For WARMING City and Country Residences, Hotels, Schools, Churches and Public Buildings. Send for Catalogue.
THE D. F. MORGAN BOILER CO., Akron, O.

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SINGLE AND DOUBLE ACTING. FOR SCREEN, MEDIUM AND HEAVY DOORS.

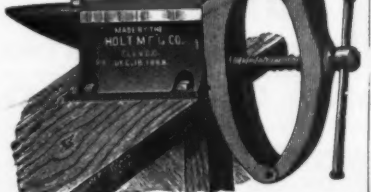
For Doors.	Length of Flanges.	Single Acting.	Double Acting.	Copper Bronzed.
6x3 3/4 10 1/4	3 1/2 in.	\$0 70	\$1 40	\$2 00
7x3 1 10 1/4	4	0 90	1 75	2 50
7x3 1 10 1/4	5	1 10	2 30	3 00
7x3 1 10 1/4	6	1 40	2 80	3 75
8x3 1 10 1/4	7	1 75	3 50	4 50
8x3 1 10 1/4	8	2 50	5 00	5 50
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10x3 2 10 1/4	12	4 50	9 00	10 00

MANUFACTURED BY
VAN WAGONER & WILLIAMS CO. New York.
Send for April (1890) Catalogue

COMBINED ANVIL AND VISE.

HARDENED FACE, STEEL JAWS.

5 SIZES--from 10 to 75 pounds.



Anvil and Vise can be used independent of each other. Illustrated Catalogue to all applicants, but discount to Trade Only.

HOLT MANUFACTURING CO.,
1018 & 1020 First Av., Cleveland, O.

Bates' Hand Elevators

Pat. April 18, 1871. Released July 25, 1876.
OVER 6,000 IN USE.

Adapted for Warehouses, Stores, Factories; Hotels, Public Institutions and every place where merchandise, &c. is transferred from one story to another.

JAMES BATES,
PATENTEE,
Nos. 1, 3 & 5 President Street, BALTIMORE.



The Jeffrey Mfg. Co.
121 W. State St., Columbus, O.

MANUFACTURERS OF
DETACHABLE CHAIN BELTING
DESIGNED FOR

**Elevators, +
+ Conveyers,
DRIVING BELTS**

For Handling Barrels, Boxes, Bales, Grain, Coal, Ores, &c.

Illustrated 1890 catalogue sent on Application.

Correspondence solicited.

JOYCE, CRIDLAND & CO.
DAYTON, O.

MANUFACTURERS OF
J. O. Joyce's Patent Lever Jack,
Compound Lever &
SCREW JACKS,
AND BENCH VISES.
30 varieties of Lever and Screw Jacks for railroad use. Please send for illustrated catalogue

COTTON SEED OIL MILLS.

From 5 to 50 tons daily capacity.

THESE MILLS HAVE ALL THE MODERN IMPROVEMENTS AND PRODUCE THE MOST SATISFACTORY RESULTS. SEND FOR PARTICULARS.
ADDRESS **H.W. HUBBARD,** ATLANTA GA. OR DALLAS, TEX.

OLNEY BROTHERS,
N. E. Agents for

Binghamton Cylinder & Spindle OILS
AND DEALERS IN
Sperm, Lard, German, Spindle and Wool

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The "WILLIAMS," "DRAPER" & "SIPHON"
STEEL AND BRASS

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H. A. WILLIAMS MFG. CO.
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WEATHERPROOF WATERPROOF AND FIREPROOF.
Never Cracks, Blisters or Peels. Especially adapted for Tin, Zinc, Copper, Iron, Shingles and Board Roofs.

R.T. PATE AND COMPANY
RICHMOND IRON PAINT
TRADE-MARK
87% PER-CENT IRON
PAT'D SEPT. 30, 1878.
No. 7,707.

DAMP AND IMPERFECT WALLS ARE ALSO RENDERED DRY BY THE USE OF THIS PAINT AND CEMENT.
N. T. PATE & CO., 1007 E. Cary St., Richmond, Va.

PURE WATER FROM IRON RUSTLESS PIPES.

The best for conveying water.

MADE BY THE
WELLS RUSTLESS IRON & CO.
52 JOHN STREET,
NEW YORK CITY.

Buy and Sell SECOND HAND Stave, Heading, Shingle and Ice Machinery and Hoisting Engines for CASH. Address Box 110, Cleveland, O.

TRADE NOTES.

THE Mason Regulator Co., of Boston, Mass., has issued, under date of October 18, a neat illustrated catalogue and price-list of its steam regulating devices. A concise description is given of the Mason air-brake pump, which is constructed so as to allow its application to a locomotive without altering the fittings. This device is in use on a number of Northern and Western roads, and meets with universal approval. Other devices are described, and testimonials of them published in this catalogue.

THE many Southern friends and patrons of the Covell Manufacturing Co., Chicago, Ill., extensive manufacturers of file-room machinery for saw mills and woodworking factories, will be pleased to learn that their business has increased to such an extent that they have been obliged to move from their old place, corner Randolph and Market streets, to Nos. 8 and 10 South Canal street, where they now occupy part of an elegant new building, fitted up especially for them, giving greater facilities for turning out work. The automatic saw sharpeners manufactured by this concern are said to be a real necessity to any first-class saw mill. Circulars and catalogues of the full assortment of file-room machinery will be mailed free upon application to the Covell Manufacturing Co., 8 and 10 South Canal street, Chicago, Ill.

THE following flattering testimonial to the merits of the belting made by the Nashville Rapid Tanning & Belt Manufacturing Co., of Nashville, Tenn., was received by that company:

OFFICE OF NATIONAL FERTILIZER CO.,
NASHVILLE, TENN.

Dear Sirs—In reply to your esteemed favor of recent date, we take pleasure in stating that we are now using on all our machinery belting made by your company, and so far it is giving us entire satisfaction. We have and are running daily belting of your make from 4 inches to 24 inches wide, and we regard it the best we have ever seen, and can cheerfully recommend it to other manufacturers who need a first-class belt. Yours very truly,

NATIONAL FERTILIZER CO.,
W. G. SADLER, Sec'y.

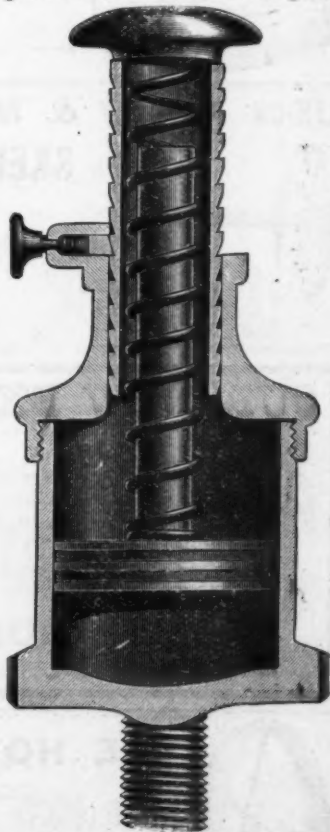
THE elevator has become a prominent fixture in the many improvements modern architecture has devised for comfort and convenience in buildings. It finds a welcome place in the magnificent store buildings which are rapidly taking the place of less imposing structures of trade, as well as in the factory, warehouse and residence. The various duties required of the elevator and the demand for machinery of this class which will combine efficiency with safety and economy of operation has resulted in the placing on the market of many styles of elevators. At the Salem Foundry & Machine Shop, Salem, Mass., of which Charles F. Curwen is proprietor, is manufactured several classes of elevators which have been adopted by many leading manufacturers of the country, among which are noted many cotton and woolen mills in New England and the South. Mr. Curwen has issued an illustrated catalogue descriptive of his drum and balance elevators, automatic hatch covers, elevator well gate and safety stop for elevators, all of which are meeting with a wide sale and the approval of some of the most prominent concerns of the country.

THE Gates Iron Works, 44 to 62 South Clinton street, Chicago, have recently moved into their new shops, which have been erected during the summer, and are now fully equipped and ready for occupancy. This company made a long lease of the grounds and put up buildings especially suited for the work of manufac-

turing rock and ore-crushing and mining machinery. The great activity in mining enterprises has resulted in a demand for improved machinery to an extent not heretofore known. To keep pace with this demand the Gates Iron Works have perfected and put upon the market three specialties, consisting of an ore crusher for very fine work, improved Cornish rolls and a concentrator. These, in addition to their well-known and established rock and ore crusher, have resulted in a large increase in their trade. At the same time the agitation over the country in respect to the improvement of highways has created an extraordinary demand for rock breakers to produce road metal. During the last summer they have built and equipped the largest ballast plants in the world. The largest buyers of breakers are railroad companies, who are using them extensively for making rock ballast. The Gates Iron Works are constantly designing improved methods of handling both crushed and uncrushed rock and ore automatically. A well-equipped crushing plant to-day is as perfect in all its appliances as one of the most modern of flour mills, and their plants are put up with the utmost care and liberality. The day has gone by when anything will do for a rock breaker. Competition has become great, and improved methods have reduced the cost of production to a remarkable degree. In many States of the East concerted and systematic action has been taken by road commissioners, so that it is now possible to travel for one hundred miles through New York and many of the Eastern States over perfectly equipped macadam roads which lead from one great center of population to another, and branch roads running through the country in all directions are beginning to connect with these main lines of thoroughfare with as much system as the feeders of a trunk line railway are built. As time goes on the isolated country roads will be thoroughly improved, in striking contrast to the miserable roads which have been suffered to act as an excuse for highways in the past years.

The Buffalo Compression Grease Cup.

A new and improved grease cup is illustrated herewith. It is simple in make, cheap and durable, and is especially designed to save the endless screwing down



BUFFALO COMPRESSION GREASE CUP.

and unscrewing of the sleeve or plunger whenever you wish to compress it or release same for the purpose of filling the cup. When used on crank pin it is unnecessary to stop engine and screw down

the plunger; a light blow on top of sleeve while engine is going at full speed will do what is required.

To compress spring on plunger simply push down on top of sleeve; to release same you have only to release the spring pin. The spring pin holds sleeve firmly at whatever point you stop it.

The sole manufacturer of the Buffalo compression grease cup is the Sherwood Manufacturing Co., of Buffalo, N. Y., successors to Felthousen & Sherwood.

NOW IS THE TIME.

Best Sale of Lots of the Season.
300 Business and Residence Lots.

Free Sites for Factories. The Wayne Land Co., adjacent to Basic City and Waynesboro.

Will offer 300 beautiful Business and Residence Lots for sale on

Thursday and Friday, Oct. 30 & 31, 1890.

Within ten minutes walk of the center of both Basic City and Waynesboro. Immense Car Works, Lock Factory, Furnace, Paper Mill, Ornamental Wood-work Factory, and other industries under construction. Two large Furniture Factories, Rife's Hydraulic Engine Manufacturing Co.'s Factory, three Sash, Door and Blind Factories, Creamery and other plants in operation. Immense Woollen and Knitting Mill, Hosiery, Match and School Desk and Furniture Factories, and other industries secured. Unexcelled Educational Facilities, both male and female. Chesapeake & Ohio and Norfolk & Western trunk line railroad facilities. An abundant supply of Pure Drinking Water. Over 5,000 new people already guaranteed by the industries secured. Delightful scenery. Attend this sale and get in on the ground floor. There is money in it for you. Special rates on all railroads. Railroad fare returned to all purchasers.

TERMS OF SALE.—Under \$500, one-third cash, balance in 6 and 12 months; over \$500, one-third cash, balance in 1 and 2 years. Charles M. Figgat, president; F. E. Keyes, secretary and treasurer. For further information address either the president at Lexington, secretary at Waynesboro, or E. J. Leyborn at Lexington or Waynesboro.

SECOND-HAND WOODWORKING MACHINERY FOR SALE.

24-in. 6-Roll Single Surface Planer & Matcher \$375
24-in. 'Sweepstakes' Plan. Match. & Moulder 175
24-in. J.A.F. & Co. 'Little Champion' Pl. & Mch 200
24-in. J.A.F. & Co. Double Drum 6-Roll Sander 175
Colburn 2-Spindle Blindstole Boring Machine 35
Band Saw, 38-inch wheels, iron table. 55
No. 2 J.A.F. & Co. Resawing Mach. 22-in. saw 105
No. 6 Sturtevant Pres. Blower, countershaft. 85
6x6 Vertical Engine. 100
35 h. p. Portable Boiler. 200
25 h. p. Tubular Boiler. 150

JAMES JENKS,

Dealer in Machinery, 190 Jefferson Avenue, Detroit, Mich.

Steam Fire Engines

FOR SALE

One Hunneman and one Button in first-class condition. Also all kinds of second-hand Engines and Boilers for sale cheap. For terms, prices, &c., address

Lowell Steam Boiler Works,
LOWELL, MASS.

Estimates given on New Work of every description.

ESTABLISHED 1832 ON PRESENT PREMISES.

The Best

—IS—

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Cheapest.



Therefore

BUY OUR

COLOPHINE

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Perfect Oils

The above are our specialties in MACHINERY OILS, and are the best oils for the price manufactured. We can give you anything in the OIL LINE, any grade, at the very lowest prices. Correspondence solicited.

WM. C. ROBINSON & SON,
MANUFACTURERS AND DEALERS IN OILS,

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NEW ORLEANS, LA.

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JOSEPH MAILLE, Pres. J. L. DE MERITT, V-Pres.
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THE ANGLO-AMERICAN
Real Estate & Improvement Co.

LIMITED.

Organized under the laws of Louisiana on March 19, 1890. Chartered to develop the agricultural and other resources of Louisiana and of the South. Homes on the monthly plan. Loans and mortgages effected.

CAPITAL STOCK, \$1,500,000,

\$214,800 worth of shares subscribed for to date.

Shares are \$100 each, bearing a guaranteed annual dividend of not less than five per cent. payable on 15th January and July of each year. Great inducements and profits for investors. We have now over \$400,000 worth of orders for homes in the city alone. We have also over \$300,000 worth of orders for different enterprises in the city and country. Correspondence solicited.

FOR SALE.

One 40 to 50 Horse-Power Second-Hand BALL ENGINE. Good as new.

One 40 to 50 Horse-Power Second-Hand HARRISON'S SAFETY BOILER.

Will be sold at great bargain. We sell to put in more power.

MARION COTTON MILLS,
MARION, S. C.

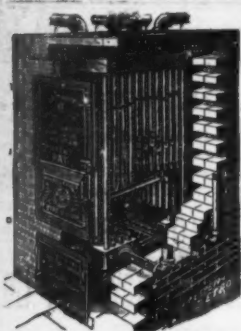
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7 Horse-Power

Otto GAS Engine

IN FIRST-CLASS ORDER,

Apply to RECORD PRINTING HOUSE, Exchange Place and Commerce St., Baltimore, Md.



BOLTON HOT WATER HEATER.

Best for Warming Dwellings, Greenhouses, Schools, Hospitals, Etc.
Most Economical, Durable and Easily Managed
Safe and Cleanly.
Best Record for Years
of Service in Canada and the Blizzard Northwest.
The Favorite in the Mild Climate of the Gulf States.
Its Vertical Circulation renders its action prompt and rapid. Its Fire Surface is the largest in proportion to grate surface.
No Bolted, Flanged or Packed Joints, therefore cannot leak. Its Brick Casing prevents loss of heat in cellar.
Made of Wrought Iron, therefore cannot crack.

DETROIT HEATING & LIGHTING CO.
88 Lake Street, CHICAGO. 389 Wight Street, DETROIT.

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STANDARD RADIATORS,
ALL SIZES.
Discounts to the Trade.



COMBINATION GAS MACHINE
BEST INDEPENDENT GAS APPARATUS
for Country and Suburban Residences,
Churches, Schools, Stores, Hotels, &c.
Over 20 years in use with never an
accident.
Average Cost of Gas 1/2 Cent per
Hour per Burner.

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Double, Single, Angle-Bar, Gang, Horizontal, Twin, Boiler, Spacing, Gate, Multiple, BELT and STEAM-DRIVEN
Punch & Shears.
Over 300 Sizes.
ALSO
Power-Cushioned
HAMMER.

Heavy Double Machine.

Send for New Catalogue.

Heavy Single Machine.

Laundry Machinery.

LARGEST STOCK. LATEST IMPROVEMENTS. FULLEST LINE.
Washing Machines,
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BOILERS AND ENGINES.

OUTFITS FOR
Hotels and Public Institutions.

A SPECIALTY.

THE A. M. DOLPH CO.

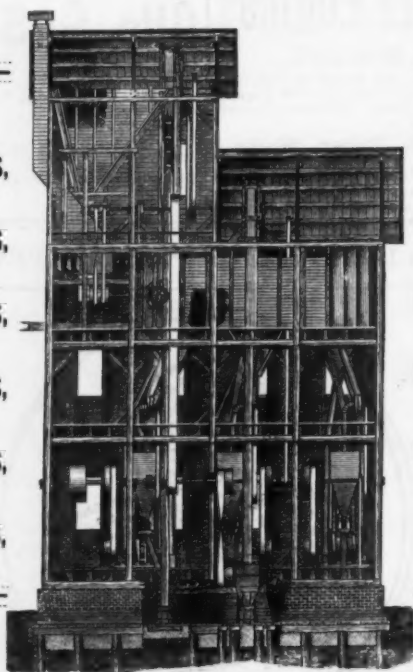
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Acid Phosphate Works,

FRISBEE-LUCOP
PULVERIZERS,
CRUSHERS,
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SACKING and
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AUTOMATIC
DUMP CARS,
ELEVATORS,
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Lead and Antimony,
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&c., &c.

We are prepared to furnish estimates for Machinery for Complete Works, including Drawings for Mill Building, Storehouse, Engine and Boiler House, &c.

• ALSO PLANS FOR ERECTION OF MACHINERY. •

We refer to the following Fertilizer Works using our machinery, viz: Imperial Fertilizer Co., Charleston S. C.; Wando Phos Co., Charleston, S. C.; Atlantic Phos. Co., Charleston, S. C.; Edisto Phos. Co., Charleston, S. C.; Ashepoo Phos. Co., Charleston, S. C.; St. Andrews Phos. Co., Charleston, S. C.; Mead & Co., Charleston, S. C.; Berkeley Phos. Co., Charleston, S. C.; Stono Phos. Co., Charleston, S. C.; Rome Chemical Co., Rome, Ga.; Montgomery Fert. Co., Montgomery, Ala.; South Chemical Co., Meridian, Miss.; Nat. Acid Co., New Orleans, La.; Troy Fert. Co., Troy, Ala.; Davie & Whittle, Petersburg, Va.; G. W. Scott Mfg. Co., Atlanta, Ga.; Hammond, Hull & Co., Savannah, Ga.; and Port Royal, S. C.; Baldwin Fert. Co., Port Royal, S. C.

Valk & Murdoch Iron Works, Charleston, S. C.

NIAGARA STAMPING & TOOL CO. Cor. Superior & Randall Sts. BUFFALO, N. Y.

MAUFACTURERS OF
Tinners' Machines and Tools for working Sheet Metals, &c.
Squaring Shears, Circle Shears,
PRESSES, DIES, Etc.



Tinners and others, we offer you the best Snips ever made. We make five sizes:

No.	10	9	8	7	6 1/2	No.	10	9	8	7	6 1/2
Cut.	2 1/2	3	3 1/2	4	4 1/2 in.	Price....	\$1.40	\$1.50	\$2.00	\$2.50	\$3.00
Weight	1	1 1/4	2	3	4 lbs.	Postage.	18	25	36	45	50 cts

We cannot send the snips C. O. D.; it would cost 25 cents for return charges. Send your money by Postal Order, Money Order, or Postage Stamp.
Send for our complete Illustrated Catalogue and Price List, and mention this paper.

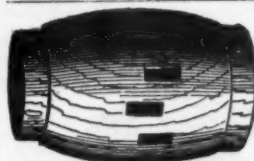
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BAR,
MUCK,
SHEET
AND PLATE
MILLS.



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SHEARS,
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ROLL LATHES,
SAND AND
CHILL ROLLS.

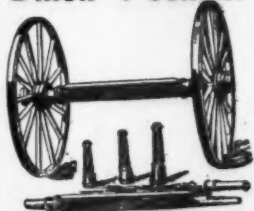
Manufacturers of IRON AND STEEL WORKS MACHINERY.



R. M. WHITNEY,
MANUFACTURER OF
BLACK BIRCH HUBS,
OLEAN, N. Y., U. S. A.

These Hubs are made in sizes from 6x12 to 16x18 inches, and are especially adapted to dry climates.
Send for Circular and Prices.

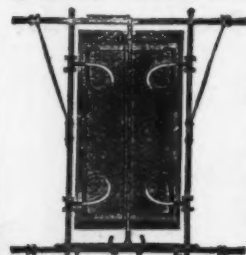
UNION FOUNDRY & MACHINE WORKS, MANSFIELD, OHIO.



SKIN FITTING MACHINES
For Fitting Cast Iron or Steel Skins.

The hard and most particular work of Wagon Building done by Machinery, and dry hickory axles furnished with skins fitted on, all complete, with the set and gather for wheels with one-half inch dish. The accompanying engraving represents our wagon axles as fitted up by us ready for the market. When ordering give exact width of track from centre to centre of tire. CAST IRON SEAMLESS SKINS, metal warranted one-quarter inch thick, and take in more wood than any other skin in the market. Write for prices. We do not manufacture any wheels.

OUR NEW EXTRA LONG No. 5 FOR TOP BUGGIES.



Combines ALL that is desirable. They are made of the finest crucible "fork" steel, and tempered by our improved lead and oil process.

We will, for a short time, sell these springs at a price far below any good spring in the market.
Write for prices and terms.

HOLLIS SPRING CO.
OLEAN, N. Y.



THE HOWELL WHEEL CO.
COVINGTON, KY.

MANUFACTURERS OF
METAL WHEELS,

For Agricultural Implements,

Trucks, Wheelbarrows, &c.

SEND FOR PRICES.

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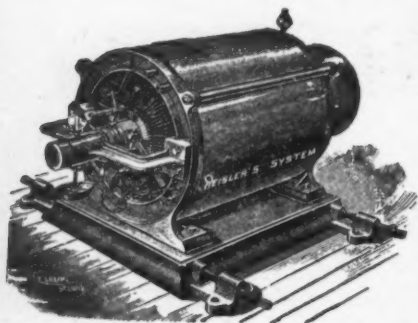
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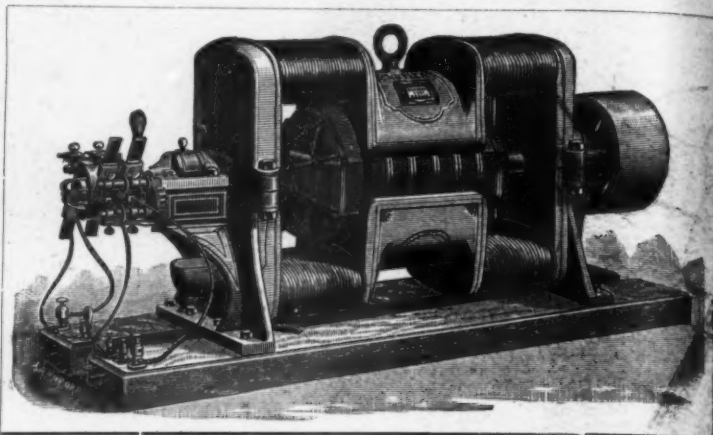
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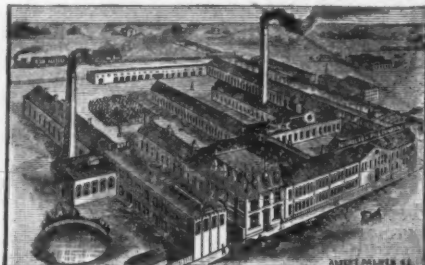
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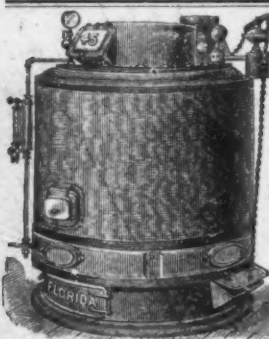
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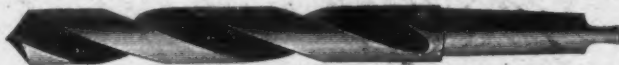
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